Leopard PTZ Camera Module
User's Guide

(Version 1.5)

Preface

Congratulations on your purchase of this product. Read this manual carefully and keep it in a safe place for any future reference.

About this manual

This user manual has been designed to help you make the most of your IP camera and its many features and functions. Information in this document has been carefully checked for accuracy; however, no guarantee is given to the correctness of the contents. The information in this document is subject to change without notice.

Copyright

© Copyright 2011

This manual contains proprietary information, protected by copyright. All rights reserved.

Contact Information

Leopard Imaging Inc.
1130 Cadillac CT
Milpitas, CA 95035
Phone: (408) 263-0988
Fax: (408) 217-1960
Email: sales@leopardimaging.com
Technical Support: support@leopardimaging.com
Web site: www.leopardimaging.com

Contents

Introduction 4
Package contents 4
1. Product Introduction 5
1.1 Product outline 5
1.2 Key features 5
1.3 Technical Spec 6
2. Product Views 7
2.1 User Interface 7
2.2 Product Dimensions 8
3. System Installation 8
3.1 Operating Environment 8
3.2 System installation 8
4. Internet Explorer 9
4.1 Preparation 9
4.2 Accessing the video preview 11
4.3 IE Interface Overview 12
4.4 Settings 14
I. Image Setting 14
II. Video Setting 19
III. Video Analytics 25
IV. Audio Setting 27
V. Time Setting 28
VI. Network Setting 29
VII. Alarm Setting 32
VIII. RsPort 35
IX. System Maintenance 37
X. Recording Managment 39
XI. About Product 40
5. FAQ 42
5.1. Client software can not access the network video server 42
5.2. The video server cannot be found by terminal configuration tool 42
Appendix 43
A1. How to enable the UPnP in Windows XP 43
A2. Milestone XProtect 43
A3. Install Add-on to get the IE Interface 51
A4. Streaming video via RTSP on VLC 53
A5. How to use WIFI 54

Introduction

This section covers unpacking your new IP camera, its key features, and basic technical information about the product. Refer to later chapters for information on setting up and configuring the product in more detail.

Package contents

The package should contain all the following contents. If anything is missing or appears damaged, contact your dealer immediately.

1. Leopard PTZ IP Camera Module (1)
2. 12V DC Power Adapter (1)
3. User's Guide (1)
4. Certificate and Warranty Card (1)

1. Product Introduction

1.1 Product outline

Leopard Imaging PTZ IP camera is the next-generation IP Camera with different sensor boards from different manufacturers. It outputs full HD Video in H.264, MPEG-4, MJPEG and other video format at 30 frames per second, which makes clear images achievable even under high-contrast, low-light environment. The Leopard PTZ IP Camera is ONVIF compliant and can be easily integrated into security systems.

LI-1080PTZOV is a full HD network camera module that supports H.264 video format. It is capable of streaming 1920 x 1080P video at 30 frame/second with 18x Optical ZOOM and Auto Focusing functions.

Advanced features include: embedded motion detection, face detection, and private area mask. LI-1080PTZOV is ONVIF compliant and can be easily integrated into various security systems.

1.2 Key features

- 30 frames per second @ 1080P
- Support single / dual media streaming output
- Support face detection (optional)
- Support motion detection, alarm linkage
- Support image enhancement, low-light treatment
- ONVIF Compliance
- Built-in Web Server, fully support monitor, configure and manage via IE
- Dynamic frame rate control, real-time video on the Internet to ensure transmission
- 18x Optical ZOOM Lens
- Day/Night IR cutting auto-switch
- Auto IRIS support
- Support CGI interface for easier communication
- Support standard ONVIF NVR
- Option Wi-Fi module

1.3 Technical Spec

Model	LI-1080PTZOV
Image Input	
Sensor	OmniVision 1/2.7" CMOS Sensor
Day/Night	Auto IR Cutting Filter Switcher
ZOOM	18x Optical ZOOM Lens
Enhance	Auto Enhance
Exposure & White Balance	Auto Exposure & Auto WB
Focus	Auto and Manual focusing, focusing step setting
Image Process	
Resolution	1920x1080, 1280x720, 1280x960, 720x480
Active Pixels	1980 (H) x 1080 (V)
Pixel Size	3 μm x 3 μm
Format & Frame Rate	H264: 30f/s
Video Analytics	
Motion Detection	Support
Face Detection	Support (optional)
Network	
Protocols	TCP/IP, HTTP, FTP (client/server), SMTP, DHCP, DNS, NTP, RTP/RTCP
Wireless	Support (Optional WIFI Module)
Protocol	ONVIF
Authentication	IEEE802.1X
UPnP protocol	Support
Zero configuration protocol	Support
Interfaces	
Network	10BASE-T/100BASE-TX (RJ-45)
Serial Port	Extended port RS-485 (PELCO-D Protocol)
Extension Storage	Extended port for SD card x1
Alarm In/Out	Extended port for One channel Input, one channel Output
Audio Input/Ouput	Extended port for audio
Work Environment	
Weight	314gram
Dimensions	80mm*60mm*50mm
Power Supply	DC12V
Power Consuming	<3.5w
Temperature	-10℃~ 60℃
Humidity	10% ~ 80% no condense
Video Management Software on PC	
OS	Microsoft Windows 98/2000/XP/Vista/Win7/Win8
Browser	Internet Explorer6.0 or above
Other Software	▪ Milestone XProtect (3 rd party software, see Appendix 2） ▪ VLC Media Player (see Appendix 4) ▪ Any other software which support Onvif protocol

2. Product Views

Use the following illustrations to familiarize yourself with the camera and identify each of the parts.

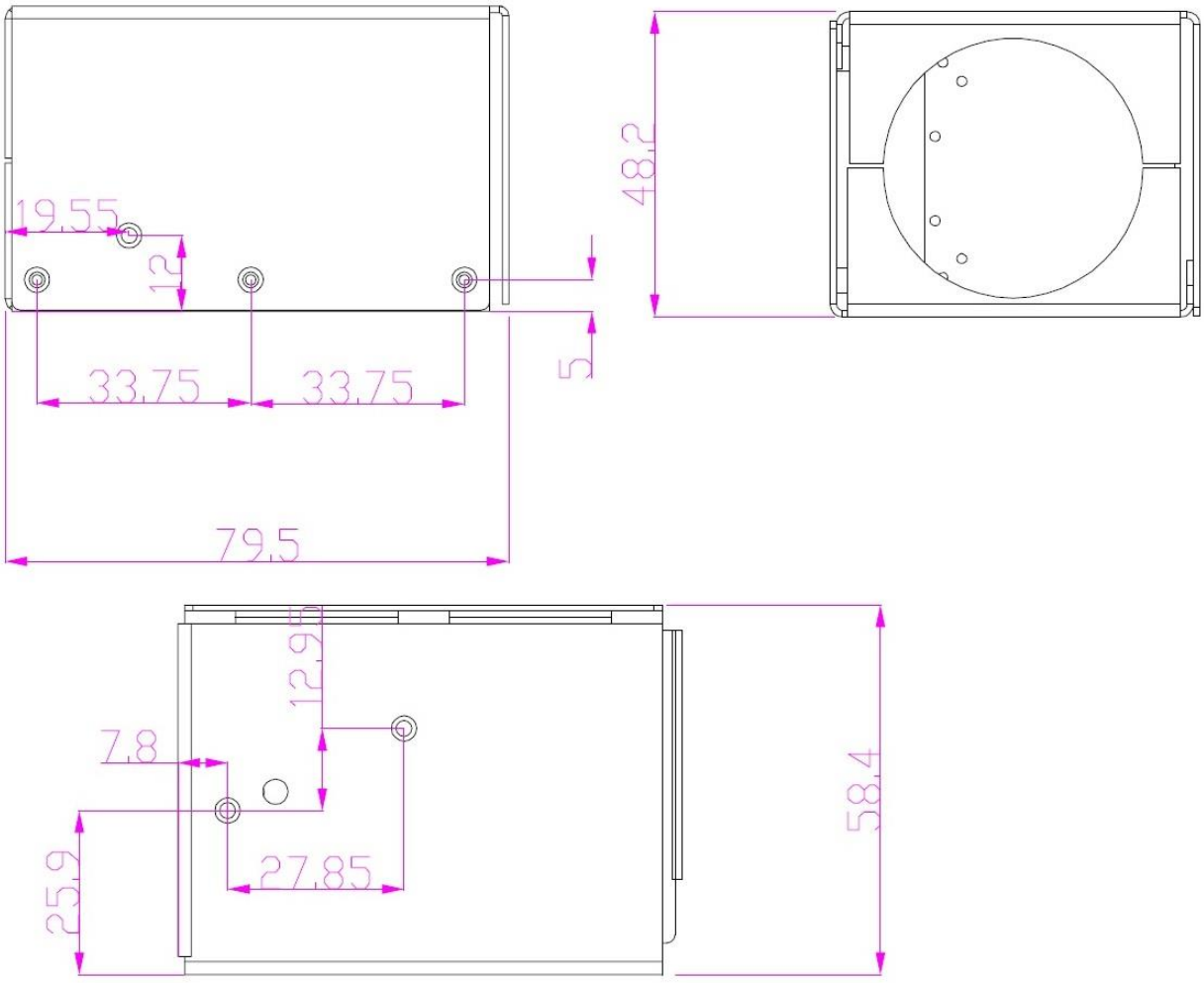
Figure 1: PTZ IP camera

2.1 User Interface

Interface	Description
LAN	RJ45 LAN Connector
Reset	Press and hold for 5 seconds to reset camera to factory default setting
Video Output	BNC connector, composite output
DC 12V	Power Input DC 12V/1A

Note: For video output, please set NTSC or PAL in Analog Video.

2.2 Product Dimensions (mm)



3. System Installation

3.1 Operating Environment

The IP Camera video streaming can be viewed on a PC with Windows XP (or higher) OS via the TCP/IP protocol.

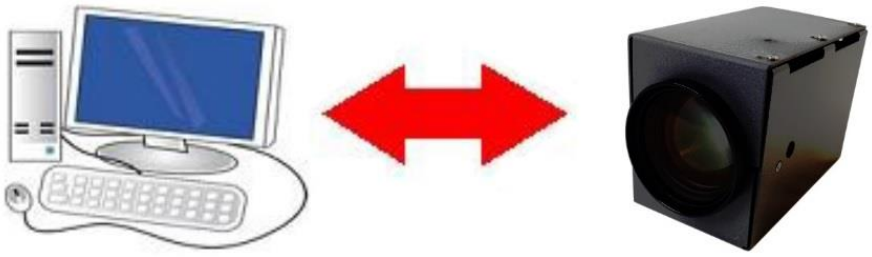
3.2 System installation

1. Connect the IP Camera to the network or directly to PC via Ethernet cable.
2. Connect the 12V DC Power to the camera.

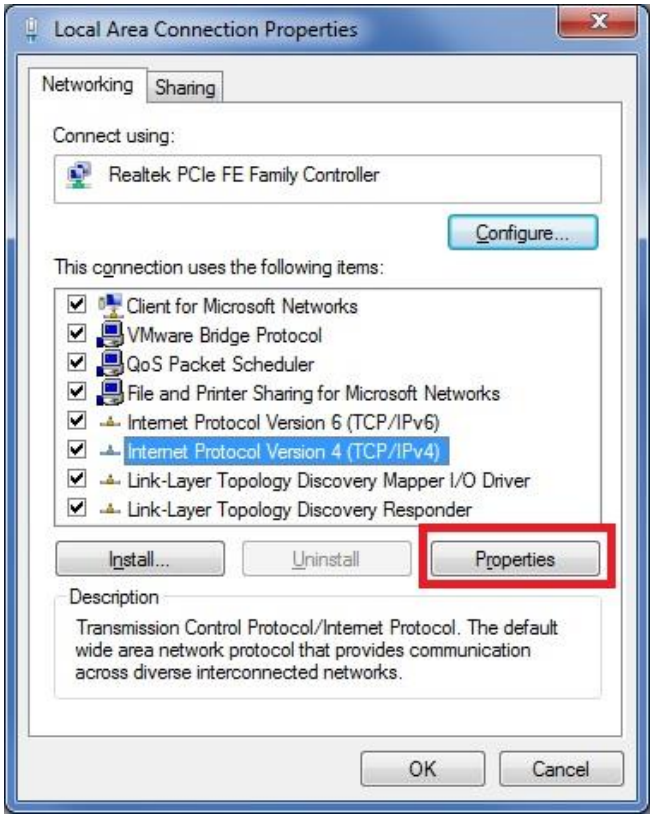
4. Internet Explorer

4.1 Preparation

1. Connect the PTZ IP camera directly to a PC with the Ethernet cable. (Note: some older computers need a crossover cable if the NIC doesn't have automatic cable switching) and power on the camera with the 12V DC power supply provided.



2. On Windows 7, go to Control Panel\Network and Sharing Center; Click "Local Area Connection" and then click "Properties". On Windows XP, go to Control Panel\Network and Internet\Network Connections. Right click on the corresponding Network adapter and then click "Properties".
3. In Local Area Connection Properties, Click Internet Protocol Version 4 (TCP/IPv4) Properties.



4. Specify IP address and DNS server as in the screenshot below.

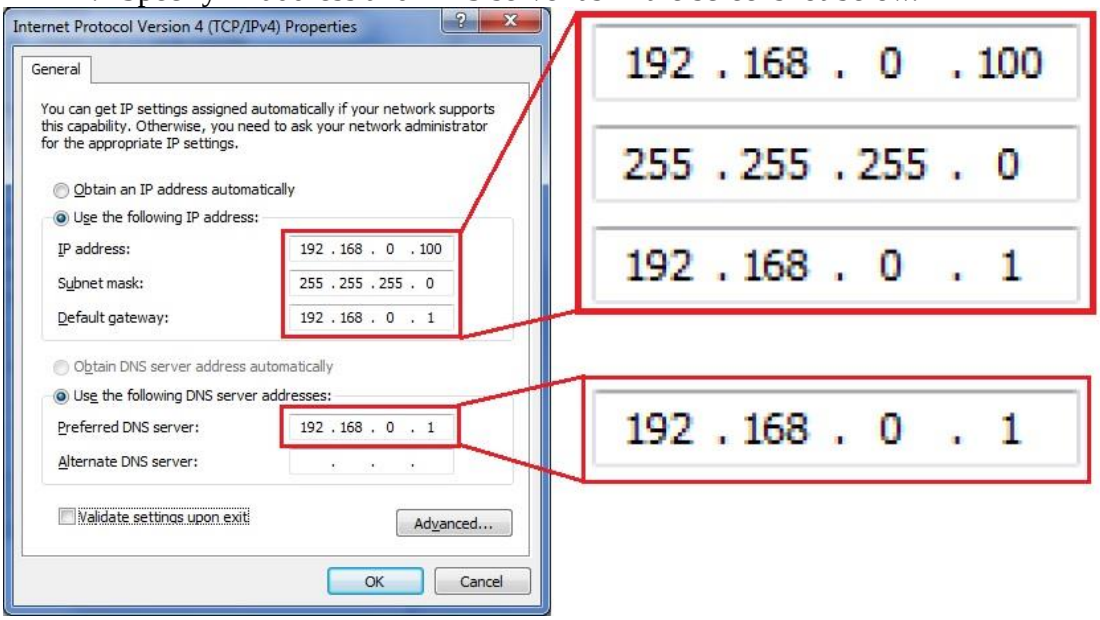
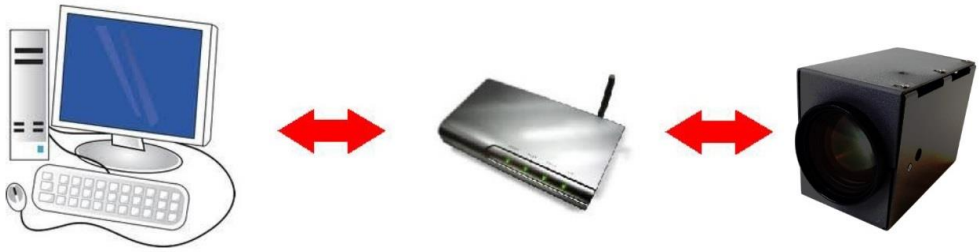

Internet Protocol Version 4 (TCP/IPv4) Properties
General
You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.
Obtain an IP address automatically
Use the following IP address:
IP address: 192 . 168 . 0 . 100
Subnet mask: 255 . 255 . 255 . 0
Default gateway: 192 . 168 . 0 . 1
Obtain DNS server address automatically
Use the following DNS server addresses:
Preferred DNS server: 192 . 168 . 0 . 1
Alternate DNS server:
Validate settings upon exit
Advanced...
OK
Cancel
192 . 168 . 0 . 100
255 . 255 . 255 . 0
192 . 168 . 0 . 1
192 . 168 . 0 . 1

Figure 2: Set static IP

5. If necessary, wait for around 45 seconds for the IP Camera to boot up.
6. Open Internet Explorer, browse for the IP address of the PTZ IP Camera (http://192.168.0.168/).
7. You should see a login Window where you can enter the username and Password.
   User Name: admin
   Password: admin
8. If you run this camera at the first time, you may not be able to see the live video before you install ActiveX. Please refer to Appendix 3 to install the ActiveX control.

Note: The default IP address is static IP 192.168.0.168. You can change the static IP address or set network setting to DHCP in Web Interface.
The IP Camera can also be connected to a network:



To connect the IP Camera to a network via a Router:

- Make sure the client PC with correct OS is also connected to the same network.
- Connect the external Power to the IP Camera.
- The router will assign an IP address to the IP Camera.
- The IP Camera will show up on the PC as a UPnP device.

4.2 Accessing the video preview

To access the video preview, please follow the steps below:

1. Input the IP address to IE, and you will get the following interface:

Windows Security
iexplore
The server 192.168.0.111 at IPNC requires a username and password.
Warning: This server is requesting that your username and password be sent in an insecure manner (basic authentication without a secure connection).
admin
Remember my credentials
OK
Cancel

Figure 3: Login Interface

2. In order to complete the installation of the Control successfully through the browser, the version of IE must be upgraded to 6.0 or above.
3. Enter user Name: admin
4. Enter password: admin
5. Click "OK". You will the get to the video preview as show below:

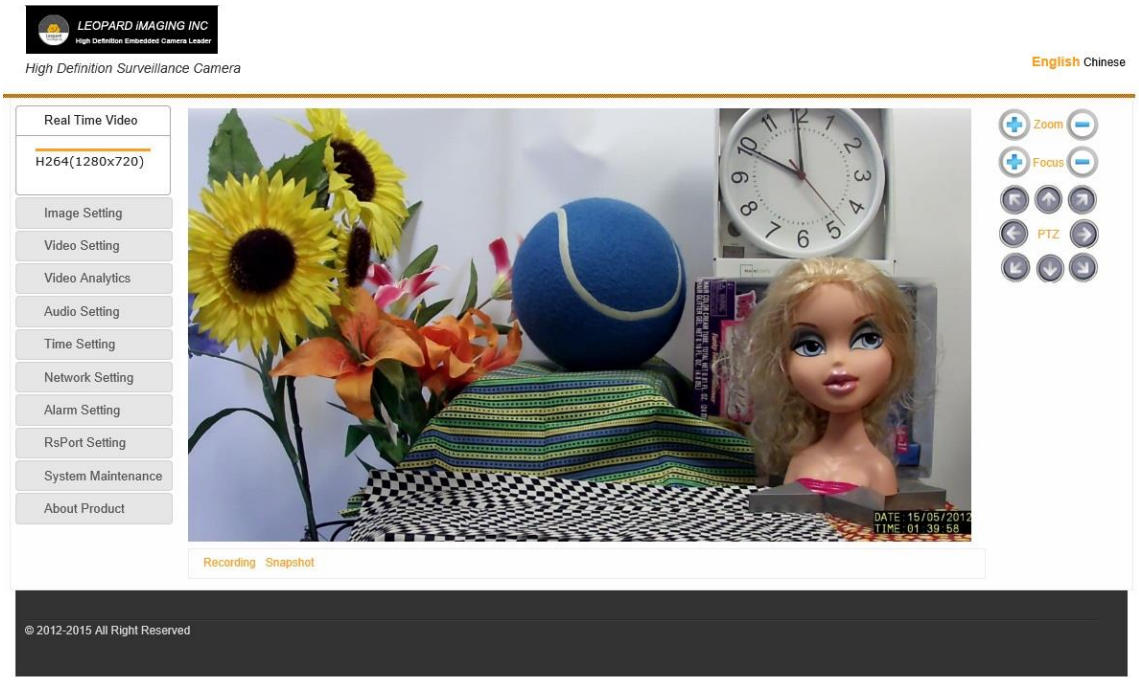


Figure 4: Live Video Interfaces

4.3 IE Interface Overview

The Window displays real-time video images, as shown in Figure 4.

The Client interface includes:

- Live video Preview.
- Navigation interface on the left part of the webpage, shown in Figure 5. These Interfaces will be introduced in detail in the following sections.

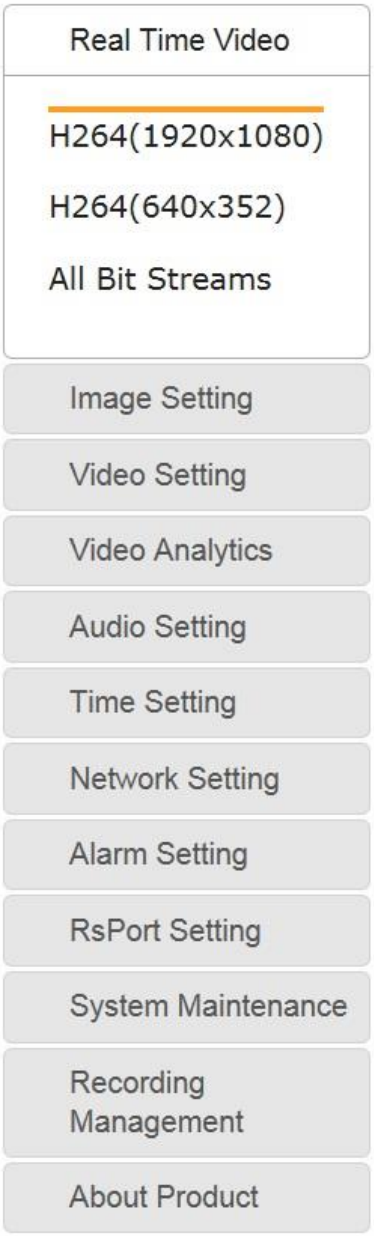


Figure 5: Navigation Interface

❖ PTZ interface on the right of the webpage.

Figure 6: PTZ Interface

- Zoom: Zoom level is from 1 to 18. Click "+" or "-" to adjust the zoom level. Auto Focus function will be enabled during zooming.
- Focus: Click "+" or "-" to focus the camera manually. Focus Step is from 2 to 30.
- PTZ: Click the arrow buttons to adjust the PTZ. Auto Focus function will be enabled when adjust the PTZ.

❖ Recording and Snapshot

Note: When use the Recording function, please run IE as Administrator.

- Start recording: After click "Start recording", video will be saved to your PC; Click again, video recording will stop.

  A window will pop up to show the path of the saved video.
- Snapshot: After click "Snapshot", you will capture an image.

Figure 7: Recording and Snapshot

4.4 Settings

I. Image Setting

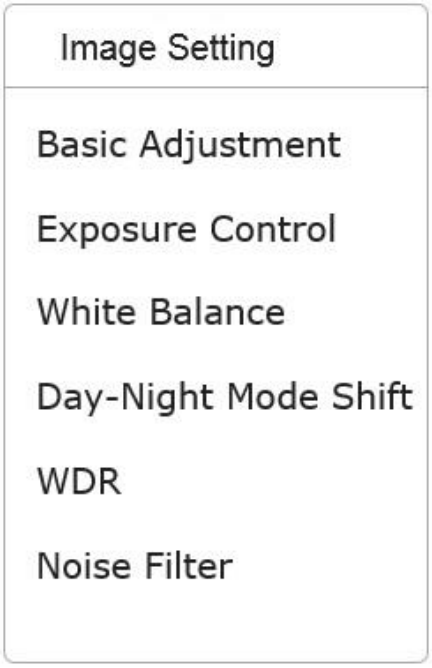


Figure 8: Image Setting

❖ Basic Adjustment

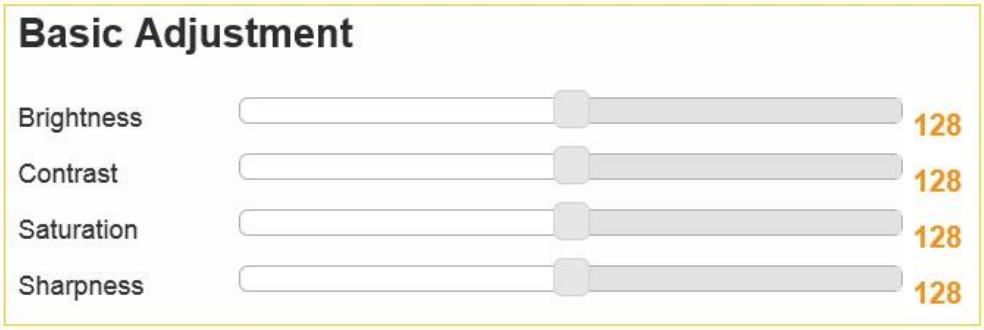


Figure 9: Basic Adjustment

- Brightness: Scroll bar to control brightness. (value ranges from 1 to 255)
- Contrast: Scroll bar to control contrast. (value ranges from 1 to 255)
- Saturation: Scroll bar to control saturation. (value ranges from 1 to 255)
- Sharpness: Scroll bar to control sharpness. (value ranges from 1 to 255)

❖ Exposure Control

- Auto Exposure

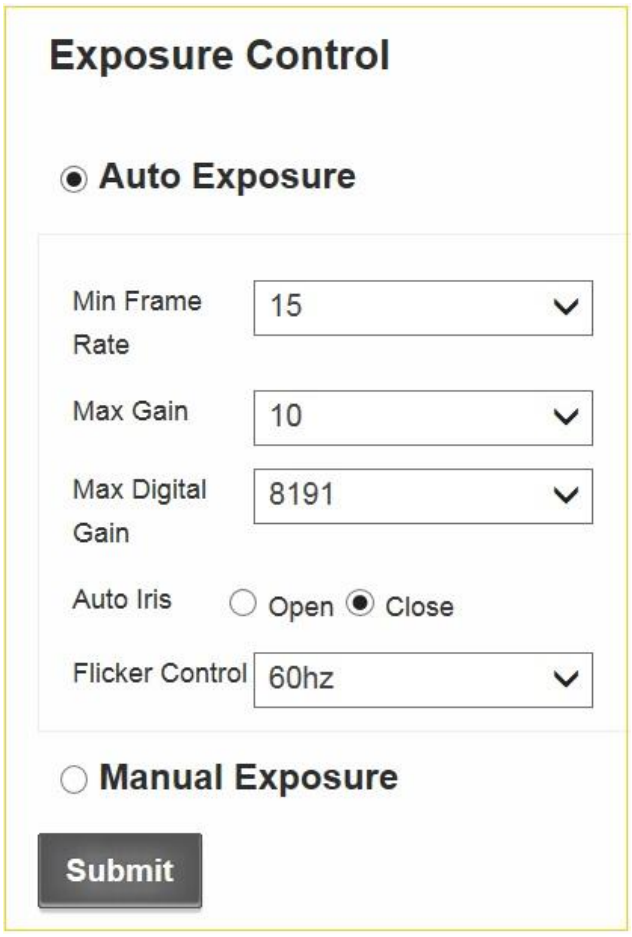


Figure 10: Auto Exposure

- Minimal Framerate: Use the pull-down list to choose the minimal framerate.
  - 30
  - 25
  - 15
  - 8
  - 1
- Max Gain: 1 ~ 10
- Max Digital Gain:
  - 1024
  - 2048
  - 4096
  - 8191
- Auto Iris: Open/ Close
- Flicker Control: Use the pull-down list to choose the anti-flicker frequency
  - 60hz flicker
  - 50hz flicker

- Manual Exposure:

Figure 11: Manual Exposure

  - Exposure Time
  - Gain: 1 ~ 10

❖ White Balance: Open/Close

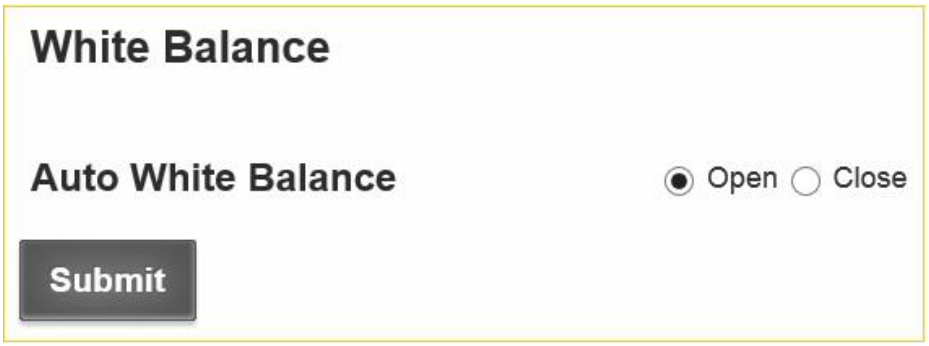


Figure 12: Auto White Balance

❖ Day Night Mode Setting

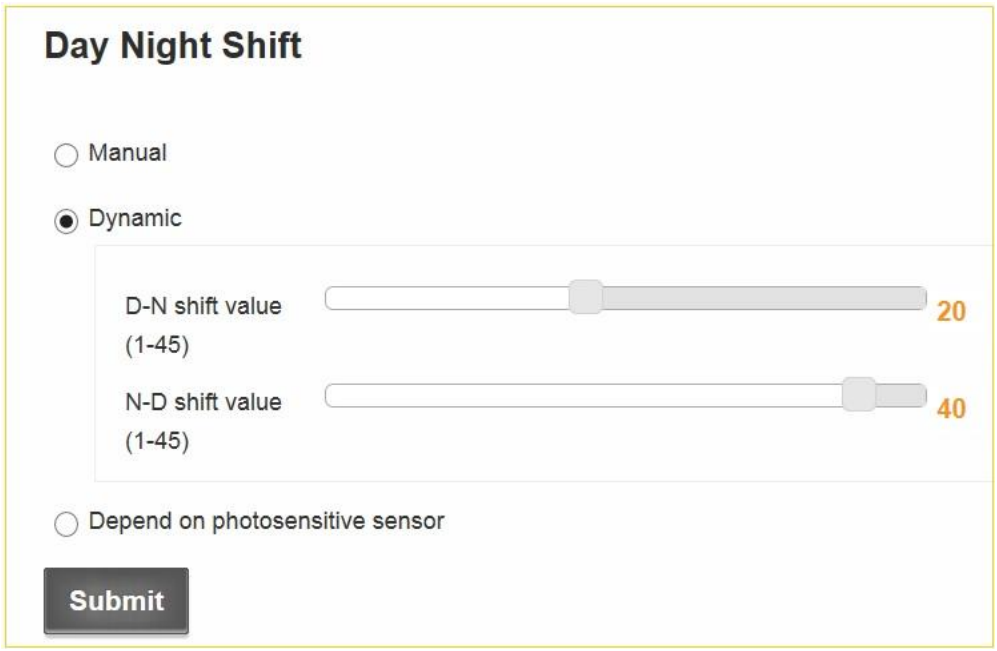


Figure 13: Auto Day-night mode shift

- Manual: The day/night mode can be set manually.
  - Day
  - Night
- Dynamic: The day/night mode can auto switch depending on the brightness.
  - Min Brightness(1- 45): when the brightness is lower than min, night mode will open
  - Max Brightness(1- 45): when the brightness is higher than max, day mode will open
- Depend on photosensitive sensor
  - High When Day
  - High When Night

❖ WDR

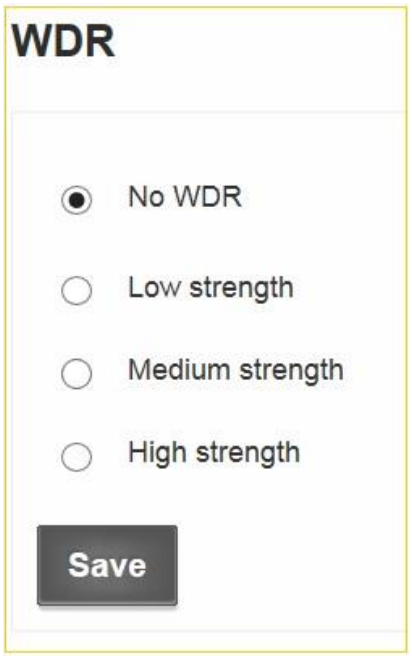


Figure 14: WDR

- No WDR
- Low strength
- Medium strength
- High strength

❖ Noise Filter

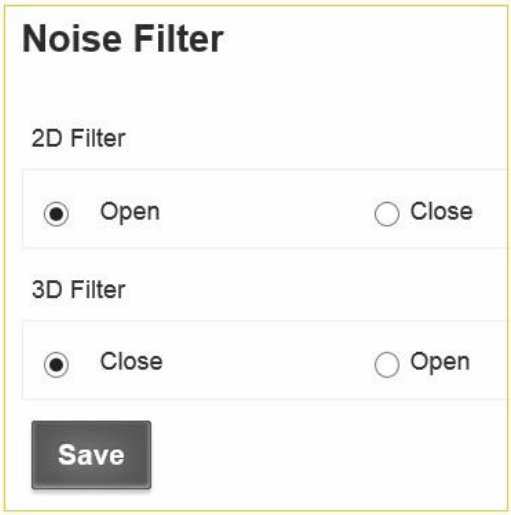


Figure 15: Noise Filter

- 2D Filter: Close / Open
- 3D Filter: Close / Open

II. Video Setting

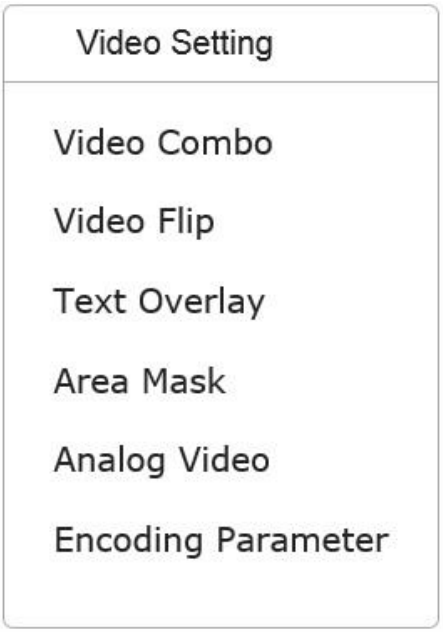


Figure 16: Video Setting

❖ Video Combo

- Main stream

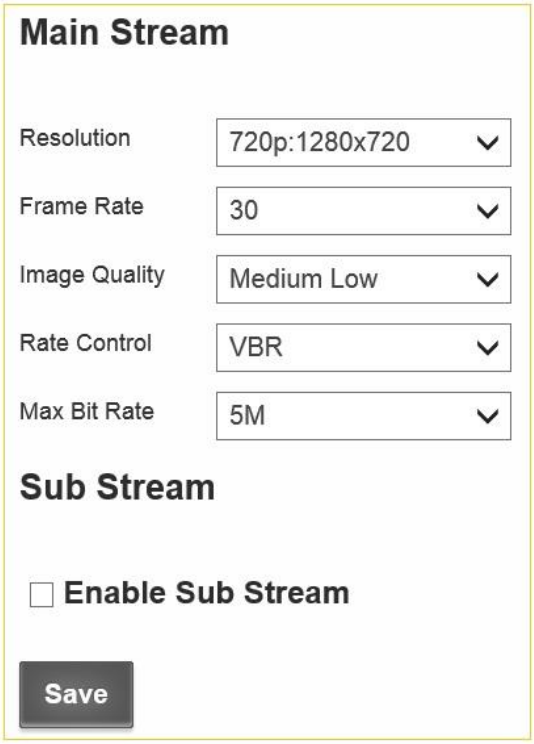


Figure 17: Main stream

- Resolution:
  - 1080p: 1920x1080
  - 720p: 1280x720
  - D1: 704x576
- Framerate: 1~30
- Image Quality:
  - High
  - Medium High
  - Medium
  - Medium Low
  - Low
  - Very Low
- Rate Control
  - VBR
  - CBR
- Max Bit-rate
  - 5M
  - 4M
  - 3M
  - 2M

- Sub stream

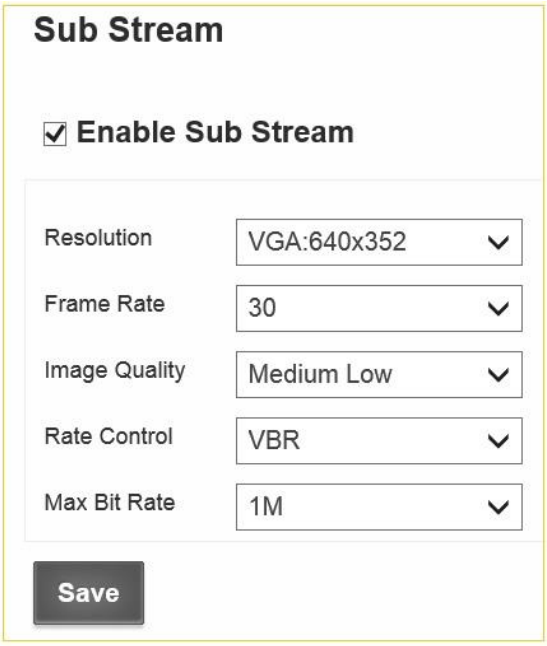


Figure 18: Sub stream

- Enable Sub stream: After Enable Sub stream, go to "Live video" and click the stream name to refresh it, you will get two steam names.

Click "All Bit Streams", you will get two live videos on the interface.

- Resolution:
  - D1: 704x576
  - VGA: 640x352
  - QVGA: 320x192
- Framerate:
  - 30
  - 25
  - 16
  - 8
  - 1
- Image Quality:
  - High
  - Medium High
  - Medium
  - Medium Low
  - Low
  - Very Low
- Rate Control
  - VBR
  - CBR
- Max Bit-rate
  - 2M
  - 1M
  - 512KB

❖ Video Flip

Figure 19: Video Flip

- OFF
- Horizontal
- Vertical
- Both

❖ Text Overlay

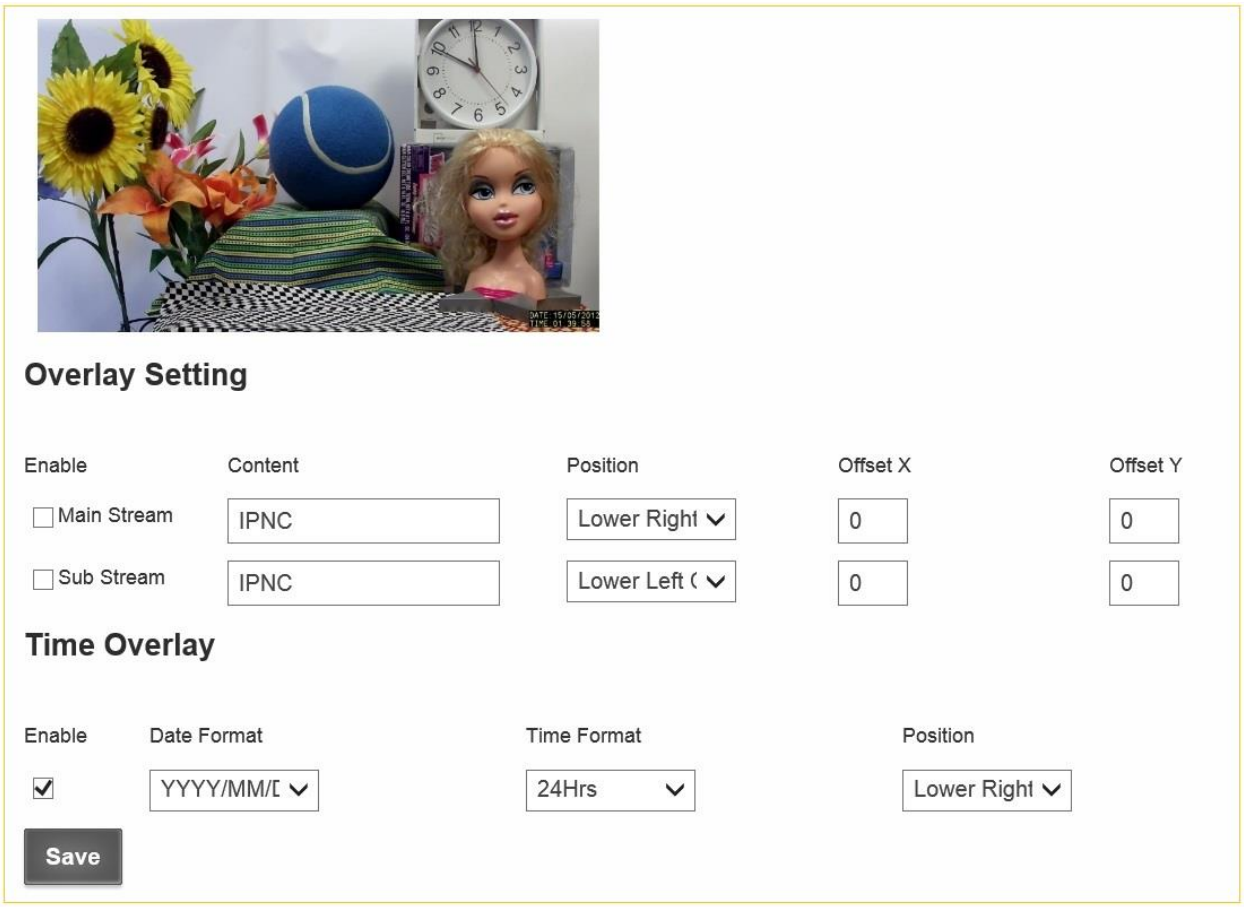


Figure 20: Text Overlay

- Main stream overlay
  - Enable
  - Text
  - Position
    - Lower-left corner
    - Lower-right corner
    - Upper-left corner
    - Upper-right corner
  - Offset X
  - Offset Y

- Sub stream overlay
  - Enable
  - Text
  - Position
    - Lower-left corner
    - Lower-right corner
    - Upper-left corner
    - Upper-right corner
  - Offset X
  - Offset Y
- Time
  - Enable
  - Date Format
    - YYYY/MM/DD
    - MM/DD/YYYY
    - DD/MM/YYYY
  - Time Format
    - 12 Hrs
    - 24 Hrs
  - Position
    - Lower-left corner
    - Lower-right corner
    - Upper-left corner
    - Upper-right corner

❖ Area Mask

Figure 21: Area Mask

There are two ways to select the area mask. Quick select and Value input select Up to 4 area masks can be set on the video.

❖ Quick select

1）Check "Enable" and click "Edit" on the right.

2）Drag mouse on the video to select the area mask。
3）Click "Apply".

❖ Value input select
1）Check "Enable".
2）Input the values of X, Y, Width and Height, then click "Edit".
3）Click "Apply".

❖ Clean area mask
1）Click "Edit" of the area mask you want to remove.
2）Click "Reset".
3）Click "Apply".

❖ Analog Video

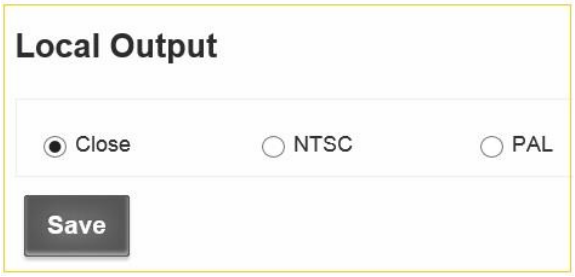


Figure 22: Analog Video

- OFF
- NTSC
- PAL

❖ Encoding Parameter

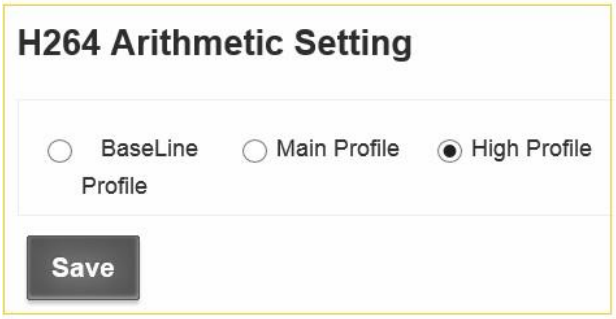


Figure 23: Encoding Parameter

- BaseLine Profile
- Main Profile
- High Profile

III. Video Analytics

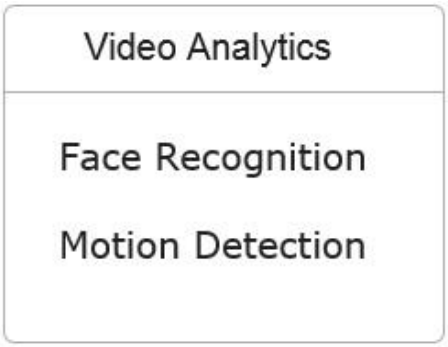


Figure 24: Video Analytics

❖ Face Detection

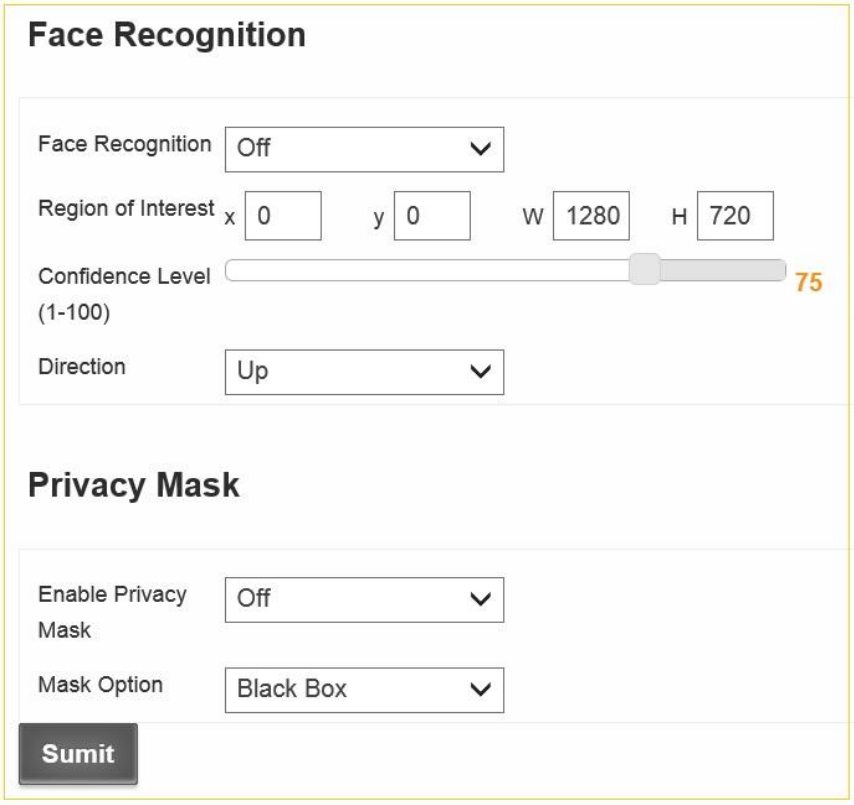


Figure 25: Face Detection

- Face Recognition
  - Face Detect
    - OFF
    - DETECT
    - ENHANCED DETECT
  - Region of Interest:
    - X: Enter the x-axis value of the starting pixel for ROI
    - Y: Enter the y-axis value of the starting pixel for ROI

        - W: Enter the width of the ROI
        - H: Enter the height of the ROI
    - Confidence Level: To adjust the accuracy of the face detection algorithm. The value ranges from 1 (lowest) to 100 (highest). The default value is 75.
    - Direction: To set the priority of detecting faces in the following directions
        - UP
        - LEFT
        - RIGHT
- Privacy Mask
    - Enable Privacy Mask: OFF / ON
    - Mask Option: Choose privacy mask pattern. The default value is Black Box.

❖ Motion Detection

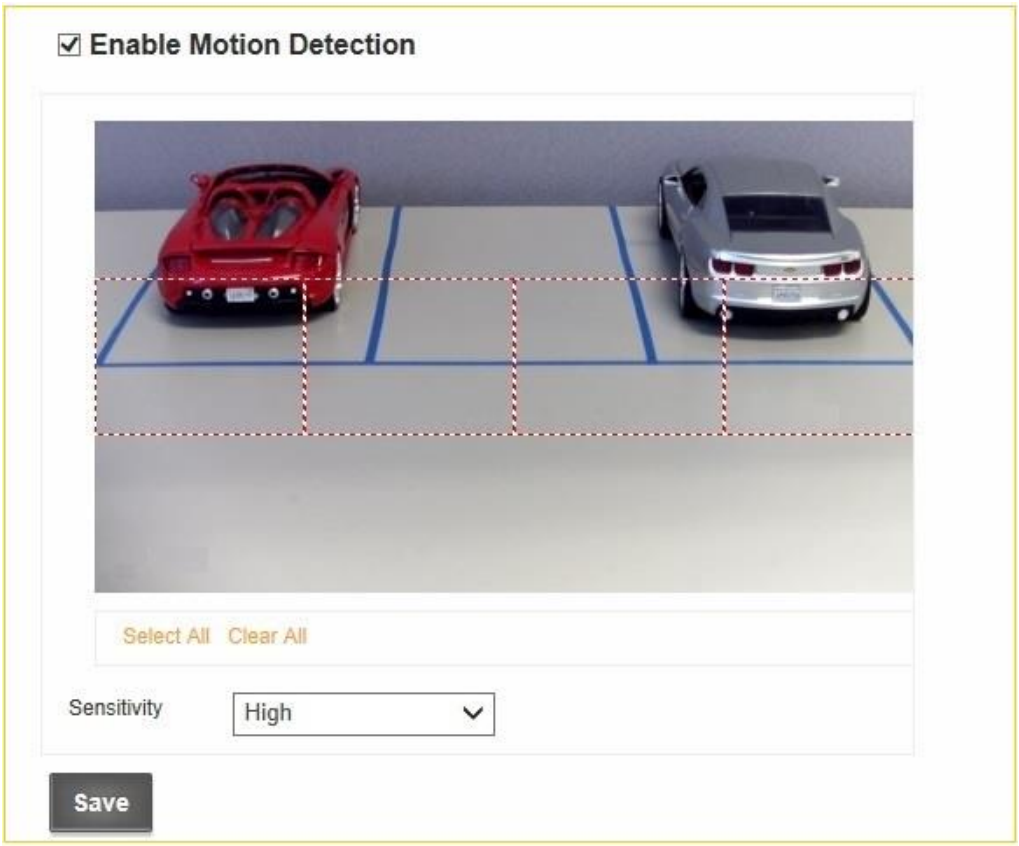


Figure 26: Motion Detection

- Click on the video interface or click "Select All" to select region of interest.
- Click "Clear All" to clear the region of interest.
- Sensitivity
    - Low
    - Medium
    - High

IV. Audio Setting

Figure 27: Audio Setting

❖ Audio Input

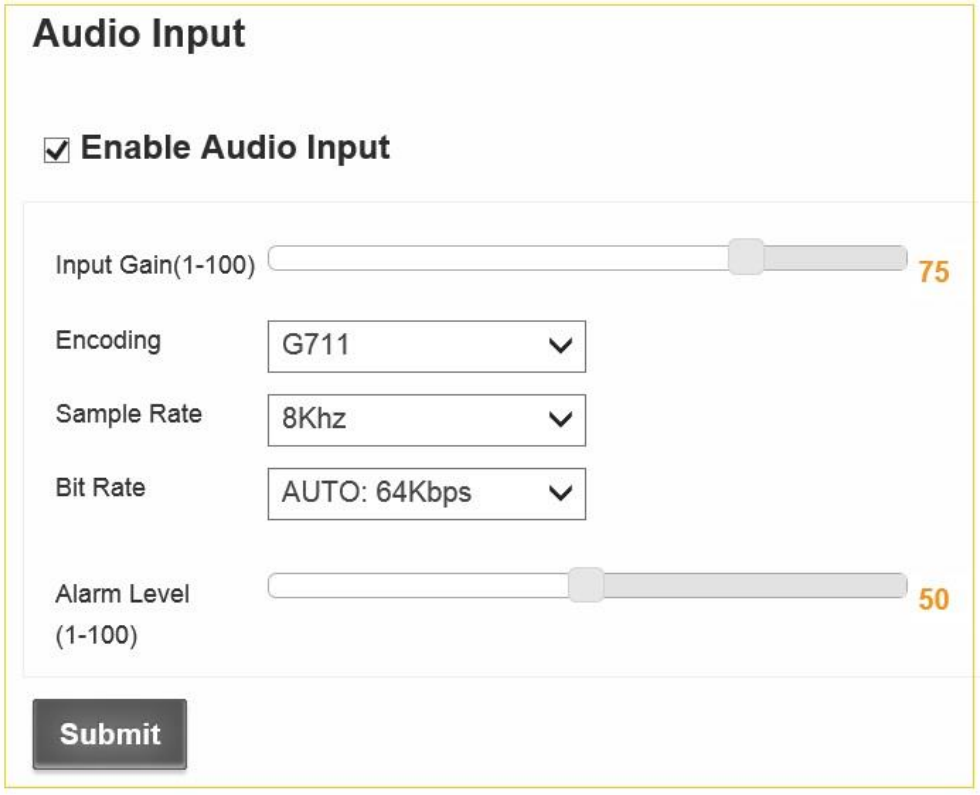


Figure 28: Audio Input

- Enable Audio Input
- Input Gain: Set the input gain to adjust the volume of audio input. The range is from 1 to 100, and the minimum value does not mute the camera.
- Encoding is G711
- Sample Rate is 8Khz

- Bit Rate: The IP Camera supports 64Kbps bit rate.
- Alarm Level: Use the scroll bar to adjust alarm level. When the audio input reaches the alarm level, the alarm will be triggered. (Audio Alarm function must be enabled in Alarm Setting.)

❖ Audio Output

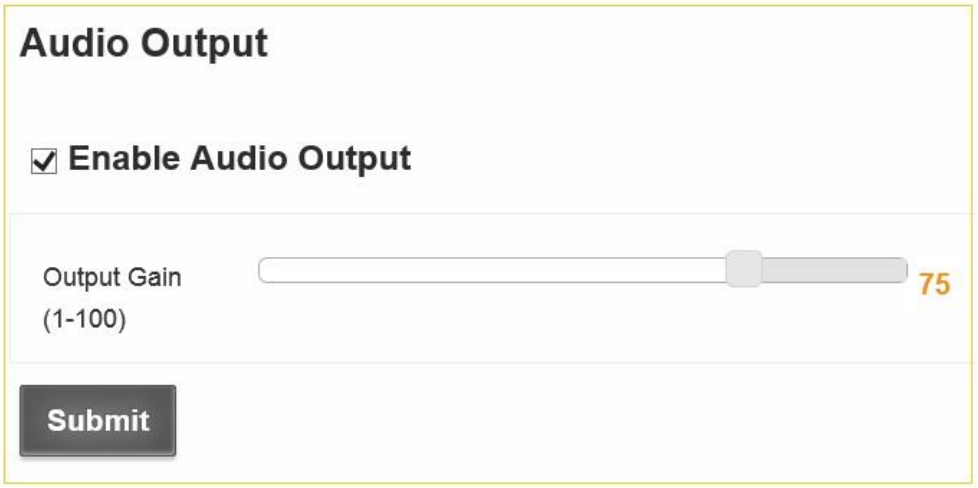


Figure 29: Audio Output

- Output Gain: Set the audio playback volume. The range is from 1 to 100

V. Time Setting

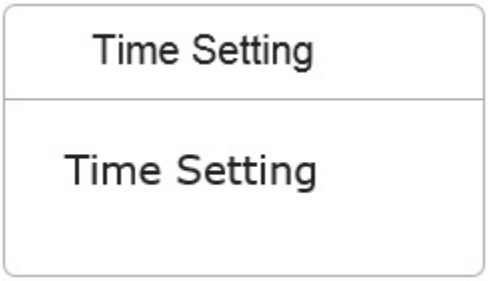


Figure 30: Time Setting

❖ Time Setting

Figure 31: Time Setting

- Time Zone
- Synchronize with computer time
- Synchronize with SNTP server

VI. Network Setting

Figure 32: Network Setting

❖ LAN Setting

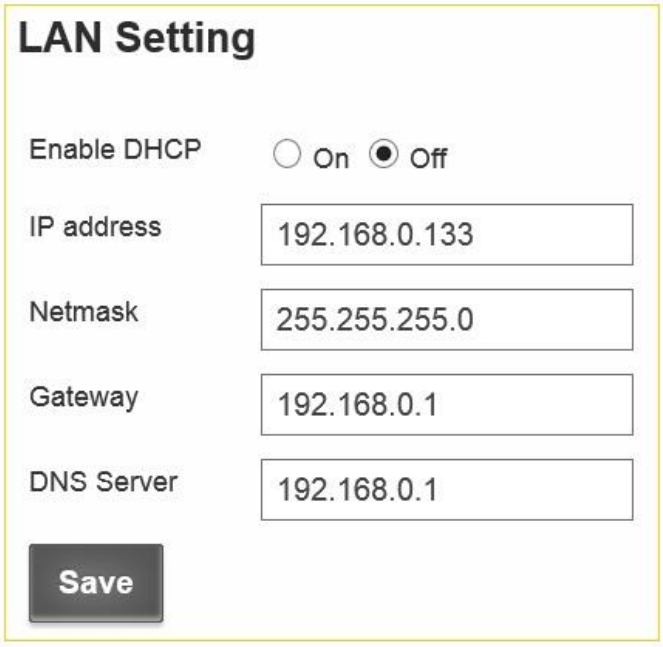


Figure 33: LAN Setting

- Enable DHCP: ON / OFF
- IP address: If you disable DHCP, you can set static IP address.
- Netmask
- Gateway
- DNS Server

❖ WIFI Access (Optional)

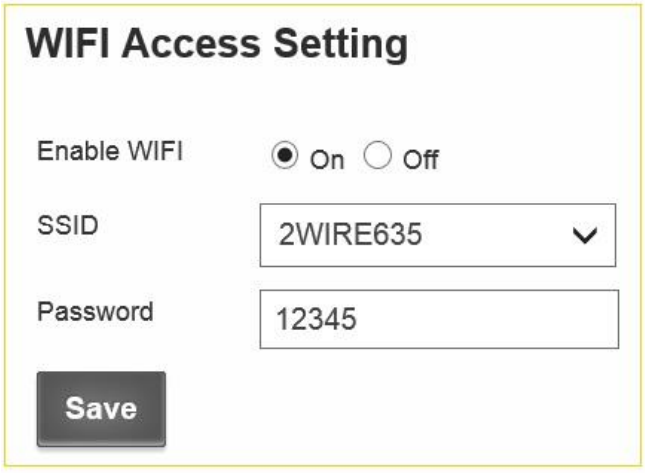


Figure 34: WIFI Access

- Enable WIFI: ON / OFF
- SSID: WIFI ID around the camera will be shown on the pull-down list.

- Password: The password of your Wireless network

❖ WIFI Setting (Optional)

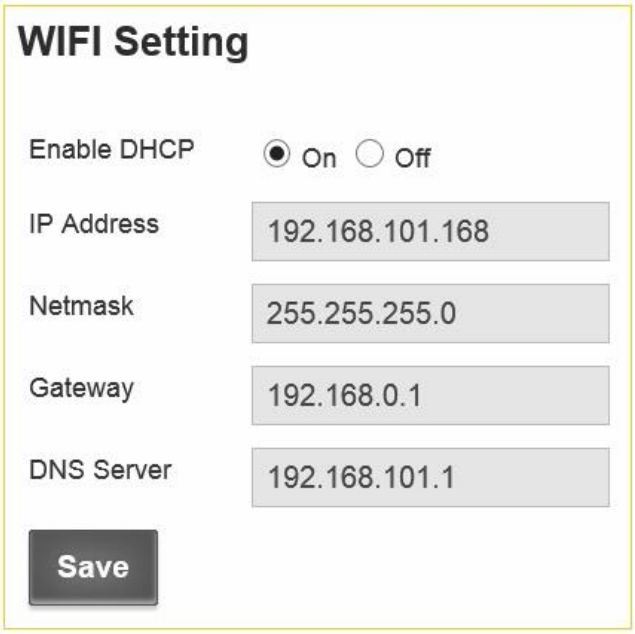


Figure 35: WIFI Setting

- Enable DHCP: ON / OFF
- IP address: If you disable DHCP, you can set static IP address.
- Netmask
- Gateway
- DNS Server

❖ Streaming Media

Figure 36: Streaming Media

- Specify Address
- Service Address

VII. Alarm Setting

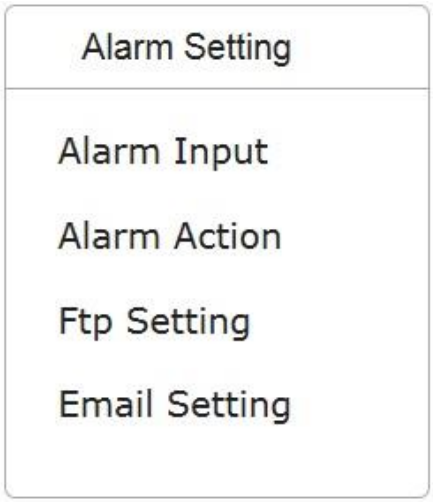


Figure 37: Alarm Setting

❖ Alarm Input

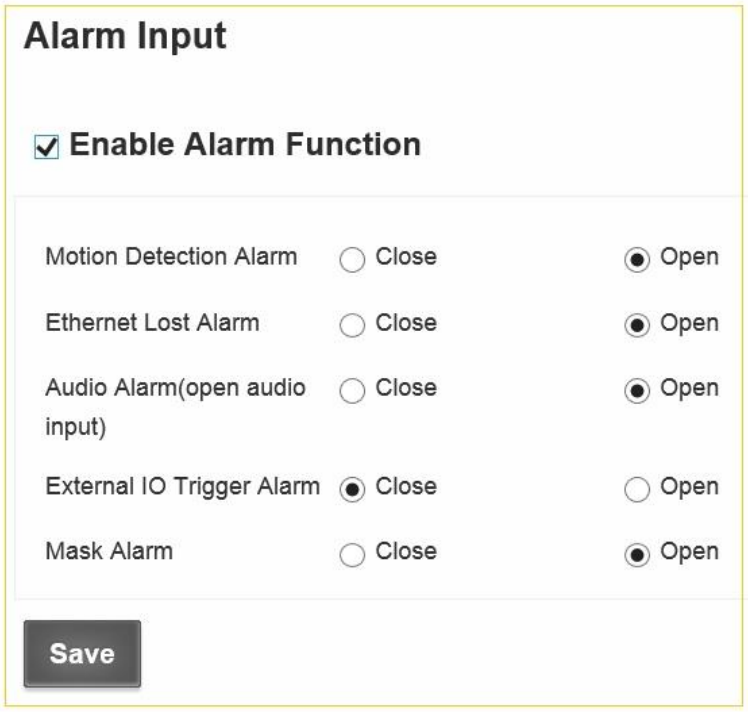


Figure 38: Alarm Input

- Enable Alarm
- Motion Detection
- Ethernet Lost Alarm
- Audio Alarm
- External Triggers

- Mask Alarm

❖ Alarm Action

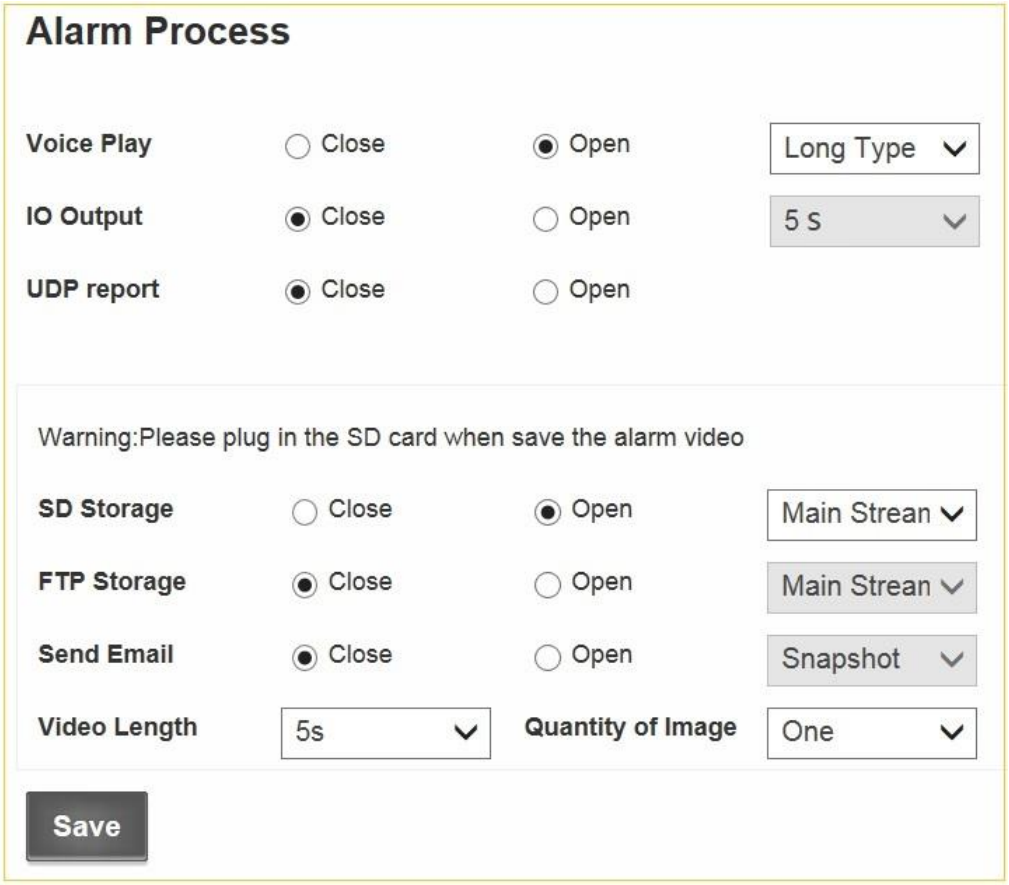


Figure 39: Alarm Action

- Voice Play: Close / Open
  - Short Type
  - Long Type
- IO Output: Close / Open
  - 5 s
- UDP report: Close / Open
- SD Storage: Close / Open
  - Main Sream
  - Sub Stream
  - Snapshot
- FTP Storage: Close / Open
  - Main Sream
  - Sub Stream
  - Snapshot
- Send Email: Close / Open
  - Snapshot

- Video Length
  - 5 s
  - 10 s
  - 30 s
- Quantity of Image
  - One

❖ FTP Setting

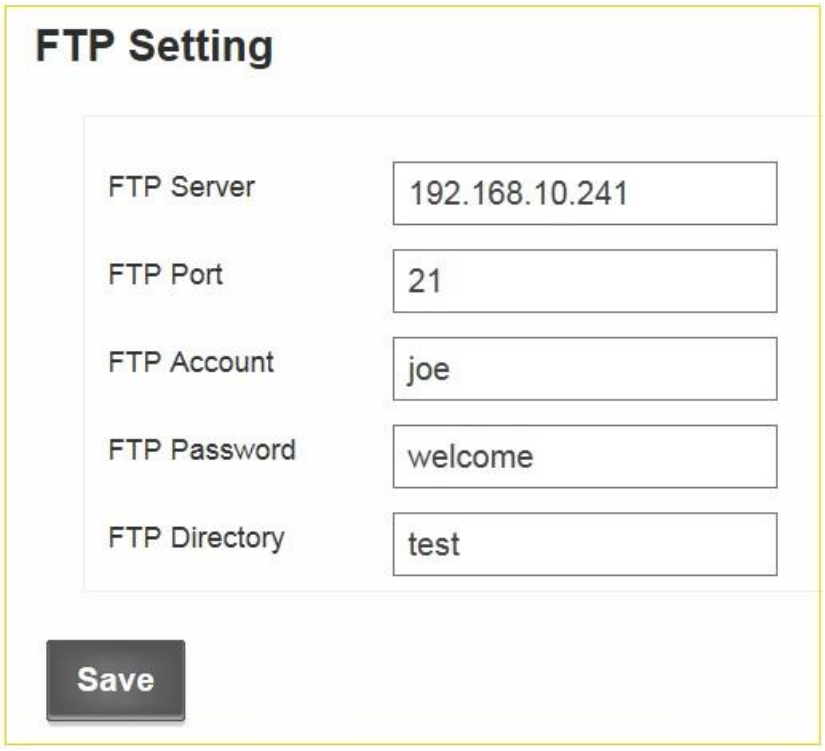


Figure 40: FTP Setting

- FTP Server
- FTP Port
- FTP Account
- FTP Password
- FTP Directory

❖ Email Setting

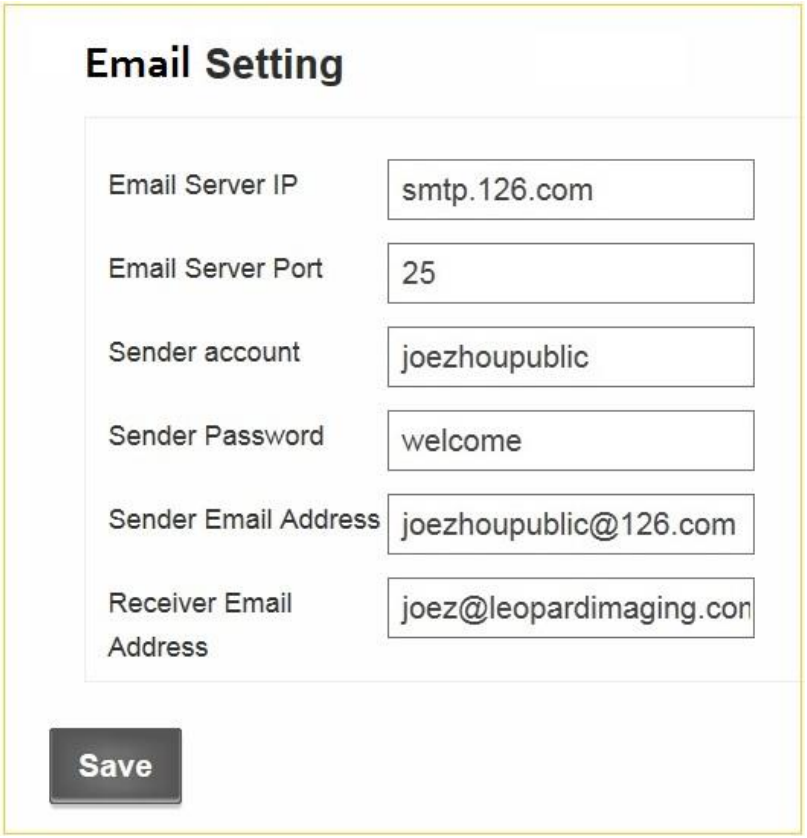


Figure 41: Email Setting

- Email Server IP
- Email Server Port
- Sender account
- Sender Password
- Sender Email Address
- Receiver Email Adress

VIII. RsPort

Figure 42: RsPort

❖ RsPort Setting

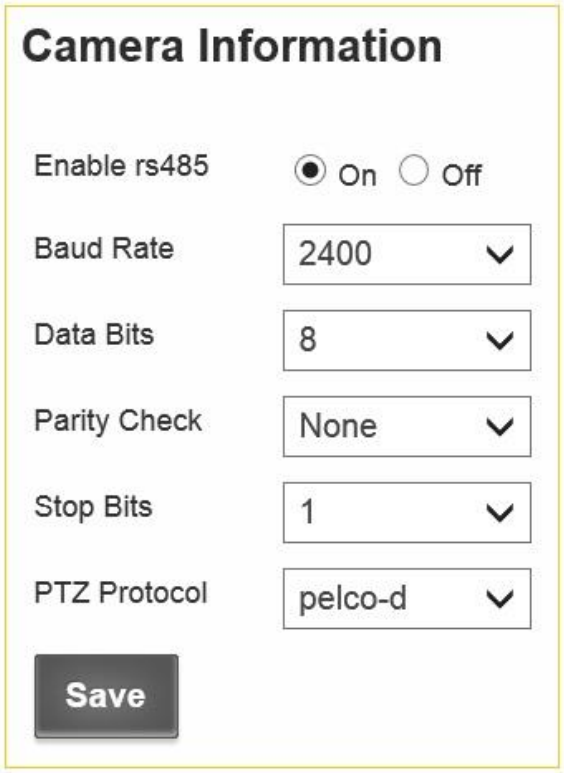


Figure 43: RsPort Setting

- Enable RS485: ON / OFF
- Baud Rate
  - 19200
  - 9600
  - 4800
  - 2400
  - 1200
- Data Bit
  - 8
  - 7
  - 6
  - 5
- Parity
  - None
  - Odd
  - Even
  - Space
- Stop Bits

  - 1
  - 2
- Protocol
  - Pelco-d
  - Pelco-e
  - User-Defined

IX. System Maintenance

Figure 44: System Maintenance

❖ Device Upgrade

Figure 45: Device Upgrade

❖ Restart Camera: Click "Restart" button to restart camera.
❖ Restore to factory settings: Click "Submit" button to reset the camera
❖ Event Log: You can check the system log in this section.

❖ SNMP Setting

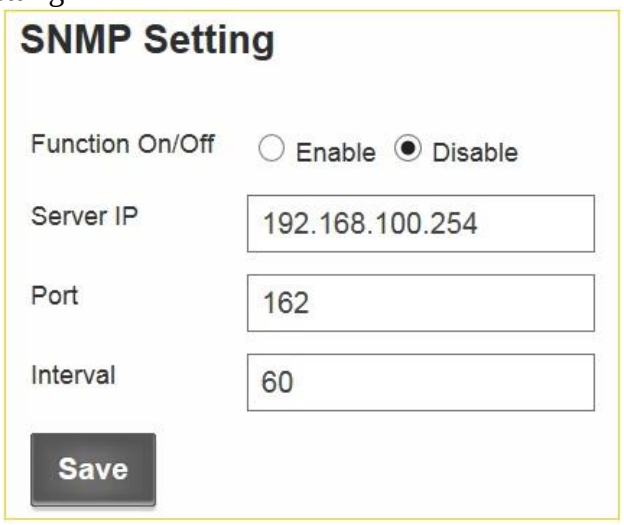


Figure 46: SNMP Setting

- Function On/Off: Enable / Disable
- Server IP
- Port
- Interval

❖ Edit User

Figure 47: Edit User

- Add new user: Click "Add new user", you will get following window.

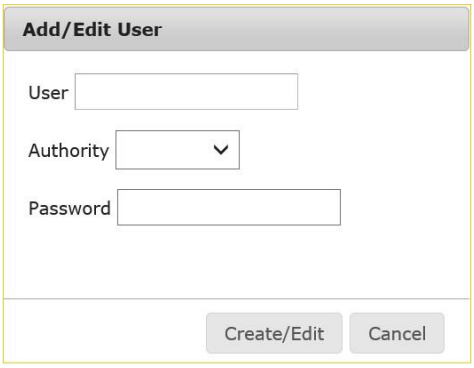


Figure 48: Add new user

- User: Enter the new user name
- Authority
  - Admin
  - Operator
  - Viewer
- Password: Enter the password of new user

- Edit User: Click "Edit" to edit user
- Delete User: Click "Delete" to delete user

X. Recording Management

Figure 49: Recording Management

❖ Recording Plan

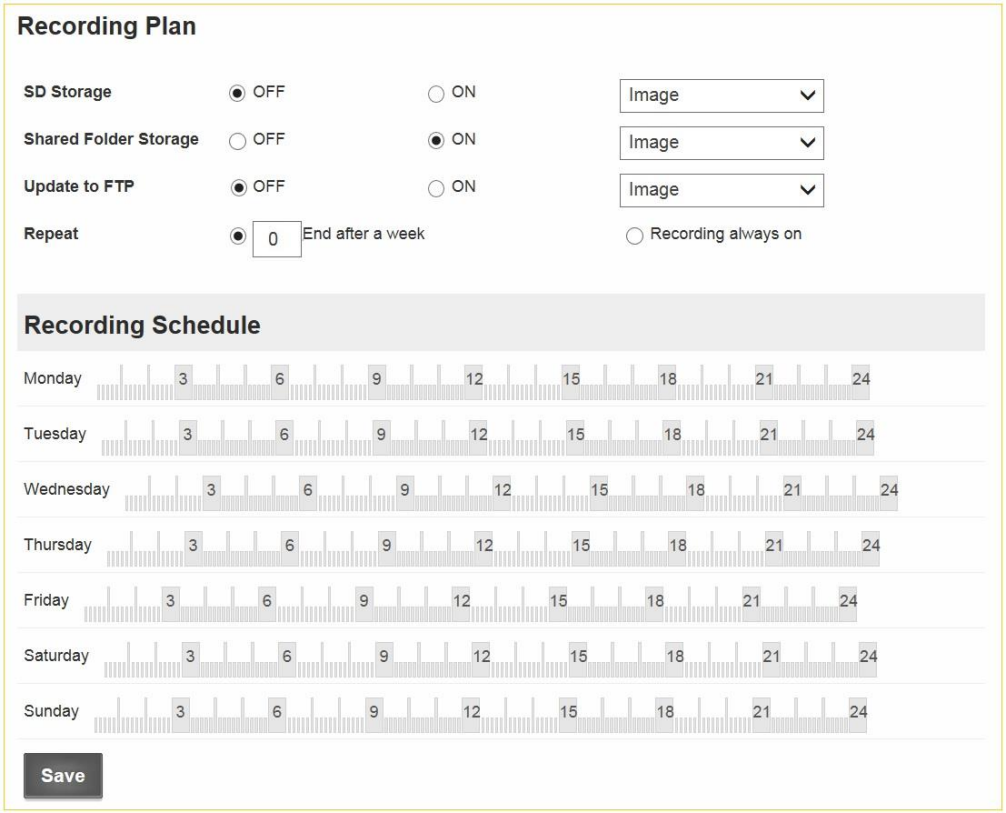


Figure 50: Recording Plan

- SD Storage: OFF / ON
  - Image
  - Video
- Shared Folder Storage: OFF / ON
  - Image
  - Video
- Update to FTP: OFF / ON
  - Image
- Repeat
- Recording always on
- Recording Schedule

❖ SD Management

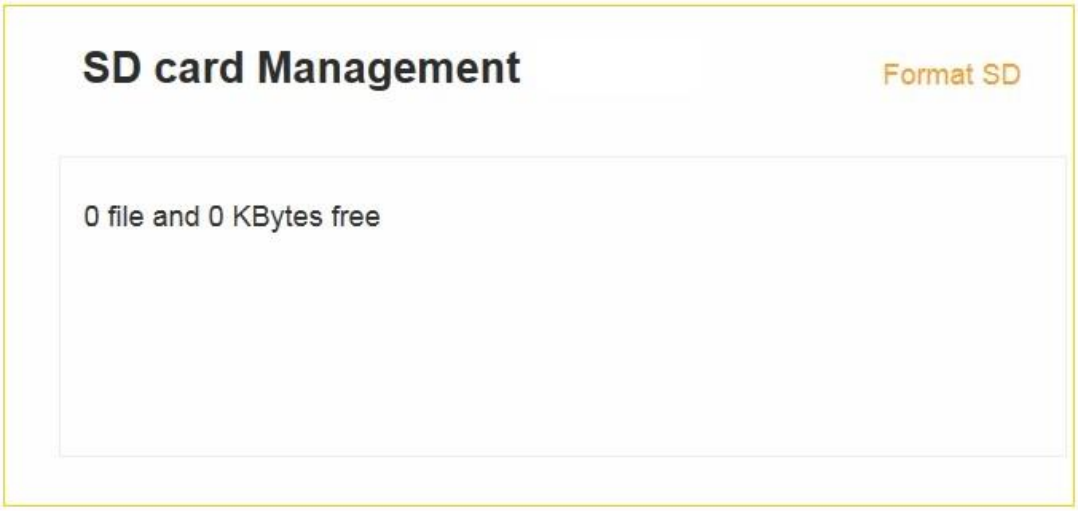


Figure 51: Recording Plan

After plug in the SD card, you can manage or format the SD card in this interface.

XI. About Product

Figure 52: About Product

❖ Camera Information

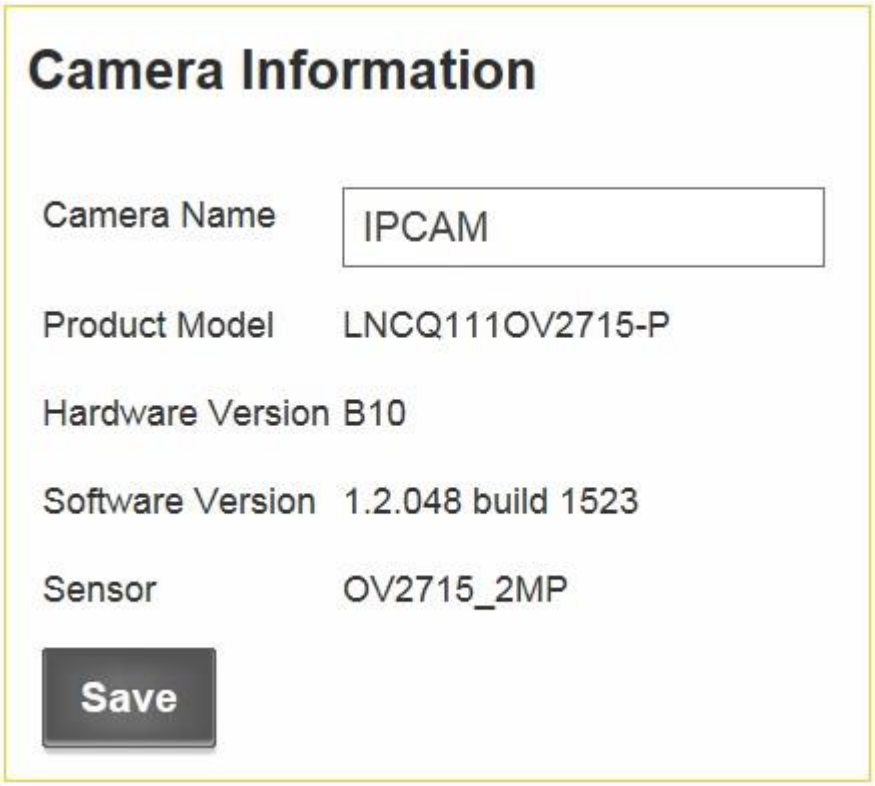


Figure 53: Camera information

- Camera Name
- Product Model
- Hardware Version
- Software Version
- Sensor

5. FAQ

5.1. Client software can not access the network video server:

- Possible Cause: No network connection
  - *Solution: Check the Ethernet cable first and then double check whether the problem is caused by a virus on the PC. Try to plug another device in the network to make sure the PC has network access.*
- Possible Cause: Incorrect IP address entered
  - *Solution: Double check the IP address from the server.*
- Possible Cause: There is an IP conflict
  - *Solution: Disconnect the video server and network. Connect video server and PC separately, then reset the IP address.*
- Possible Cause: IP addresses are in different subnets
  - *Solution: Check the server's IP address, subnet mask and gateway address settings.*
- Possible Cause: Unknown
  - *Solution: Restore to factory settings.*

5.2. The video server cannot be found by terminal configuration tool:

- Possible Cause: Check whether the network works
  - *Solution: 1.) Turn off firewall*
  - *Solution: 2.) If the device can be found, first check whether the network works. If the network works, but the network interface indicator is not a regular green light flashing, please contact our technical support engineer for equipment maintenance.*

Appendix

A1. How to enable the UPnP in Windows XP

To enable the UPnP Protocol on Windows XP, please refer to the link below from Microsoft Support:

http://support.microsoft.com/kb/941206

A2. Milestone XProtect

Milestone XProtect is a third-party software. You can try it free for 30 days and need to purchase a license if you wish to keep using it.

This guide just briefly illustrates the procedure to run LNC IP camera with Milestone XProtect. If you want more information, please refer to the user guide of Milestone XProtect, which will come with the software you download with the link below.

1. Download Milestone XProtect

Please use the following link to download Milestone XProtect

http://www.milestonesys.com/Support-and-Upgrades/Technical-Support/Self-Help/downloads/

There are different versions in the download list, and we use the Milestone XProtect Enterprise in this user guide.

2. Install Milestone XProtect

3. Run Milestone XProtect

After installation, you will get two icons on your desktop (**Milestone XProtect Management Application** and **Milestone XProtect Smart Client**).

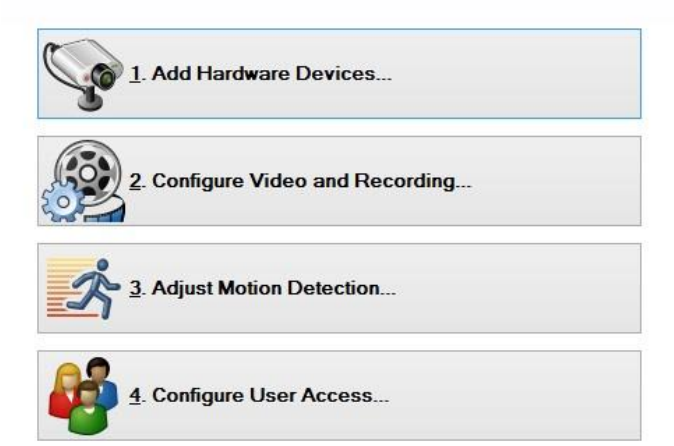
3.1 Run Management Application

Open **Milestone XProtect Management Application**.

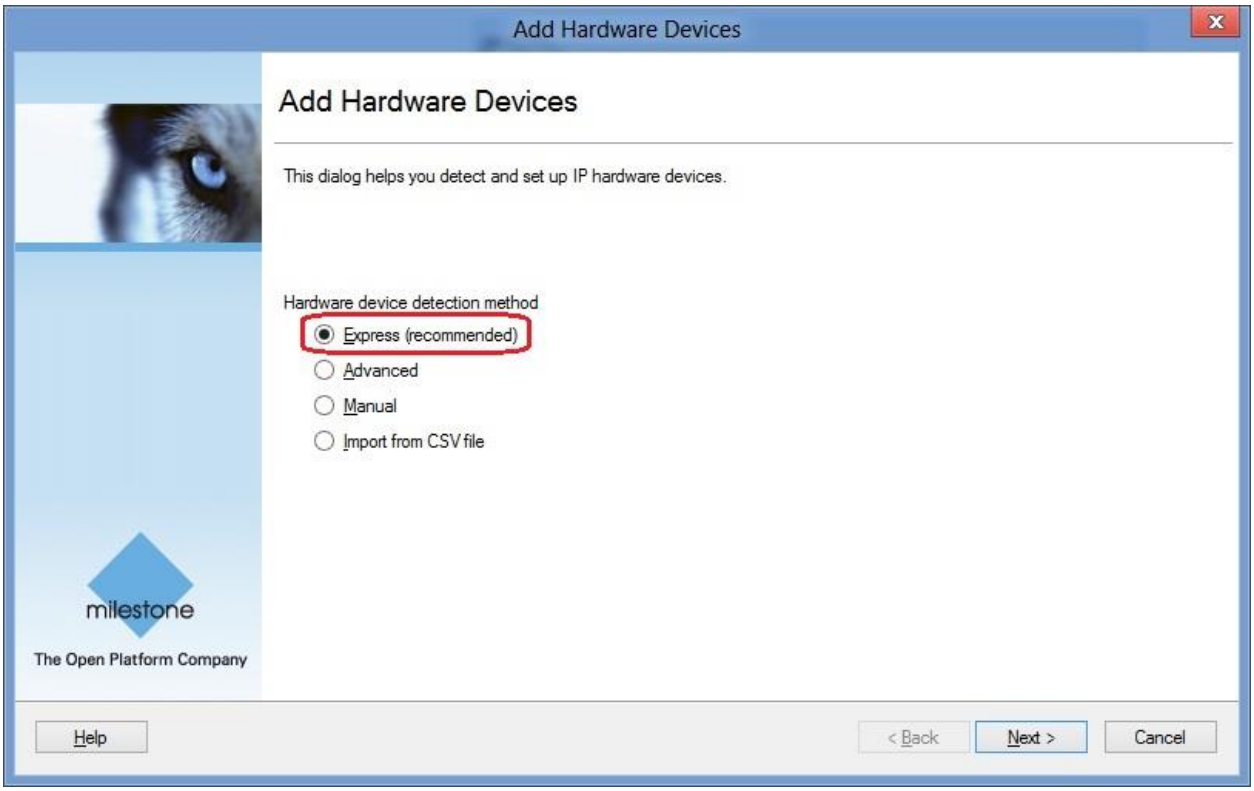
3.1.1 Add Hardware Device

When you get the interface, click **Add Hardware Device**.

Note: *Before this step, the IP camera must be running.*

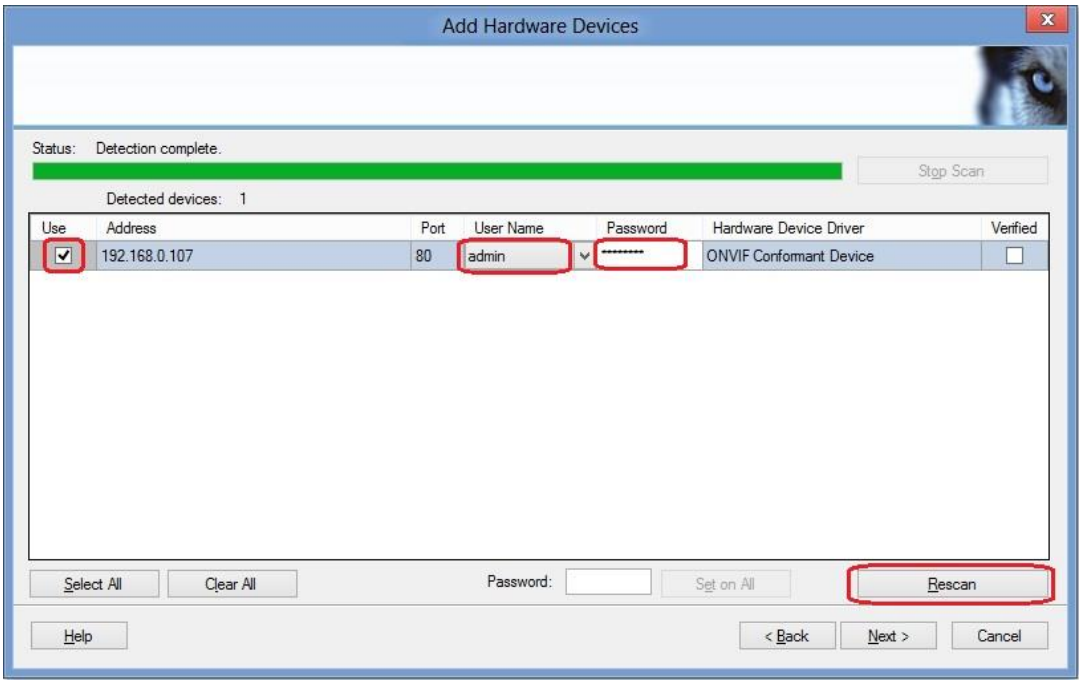


Then you will get the following window,



Select **Express** , then click **Next**.

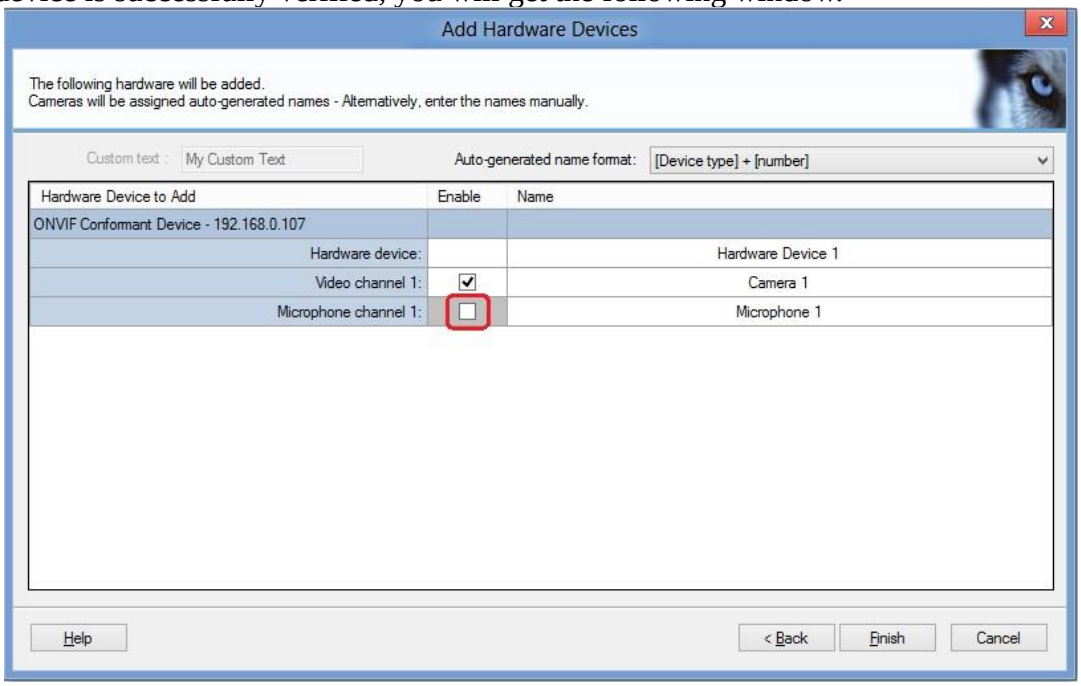
Note: *Please refer to the user guide of Milestone XProtect if you want to use other ways to add hardware device.*



After the auto-scan gets the device, please fill in **User Name** (admin) and **Password** (9999), then check **Use** and click **Next** to verify the hardware device.

Note: *If the auto-scan can not get the device, please click* ***Rescan*** *to scan it again, or you can also use other ways in last window to get the device.*

If the device is successfully verified, you will get the following window.

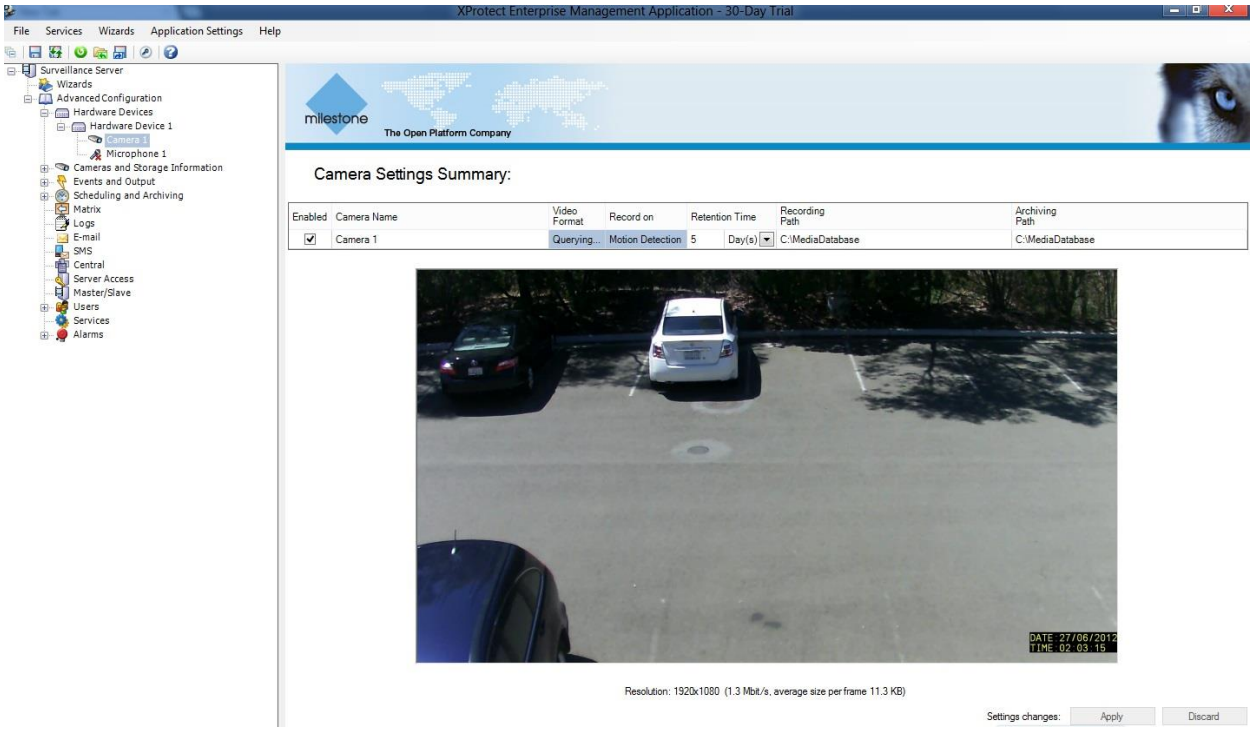


Uncheck the **Microphone channel**, then click **Finish** to add this device.

3.1.2 Manage the functions

In next window, go to **Advanced Configuration →Hardware Devices →Hardware Device # →Camera #** , after you click **Camera #**, you will get the live video.

Note: Hardware Device# *is the hardware device you just added, for example, Hardware device 1*
Camera # *is the video channel name you just added, for example, Camera 1.*



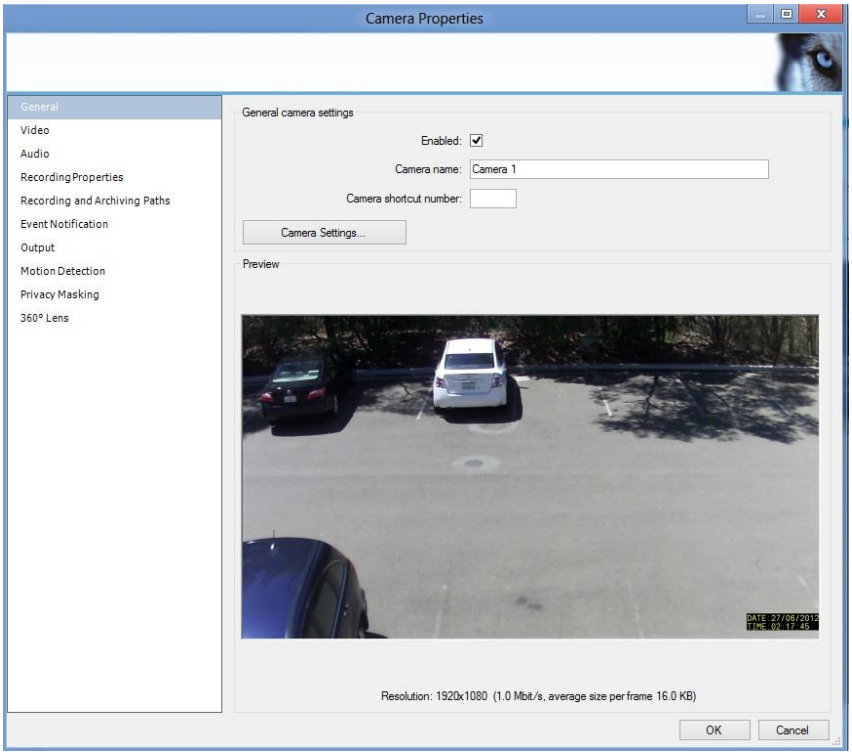
On the left side bar, there are many functions can be used.
Please refer to the user guide of Milestone XProtect for how to manage them.

Note: *Some of the functions may not be available in current IP camera version.*

3.1.3 Set camera properties

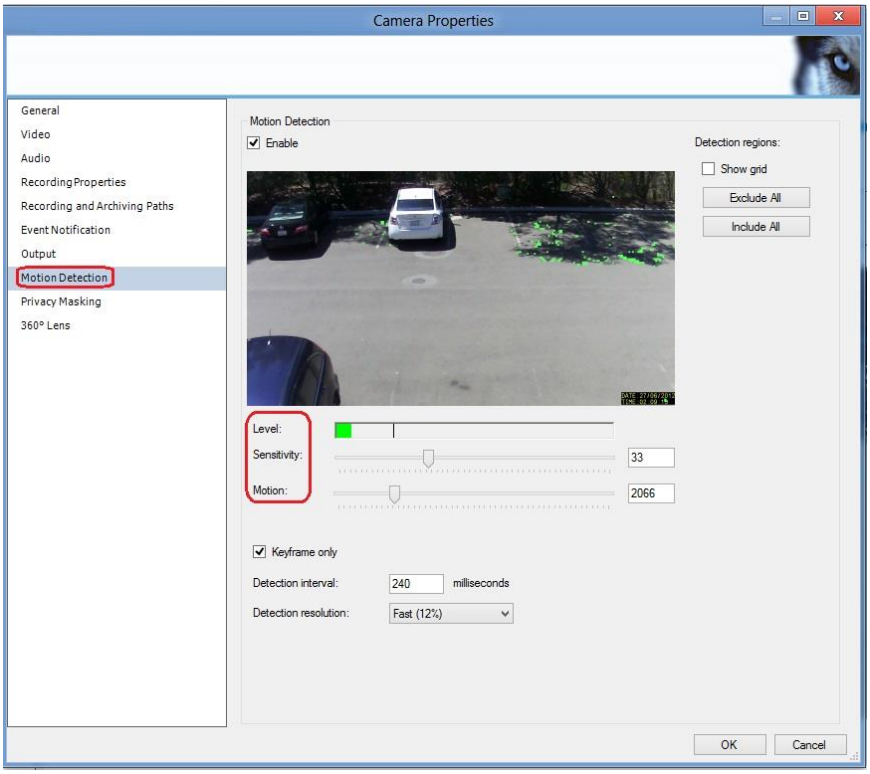
Right click **Camera # → Properties**.

In next window, you can set the properties of the camera.



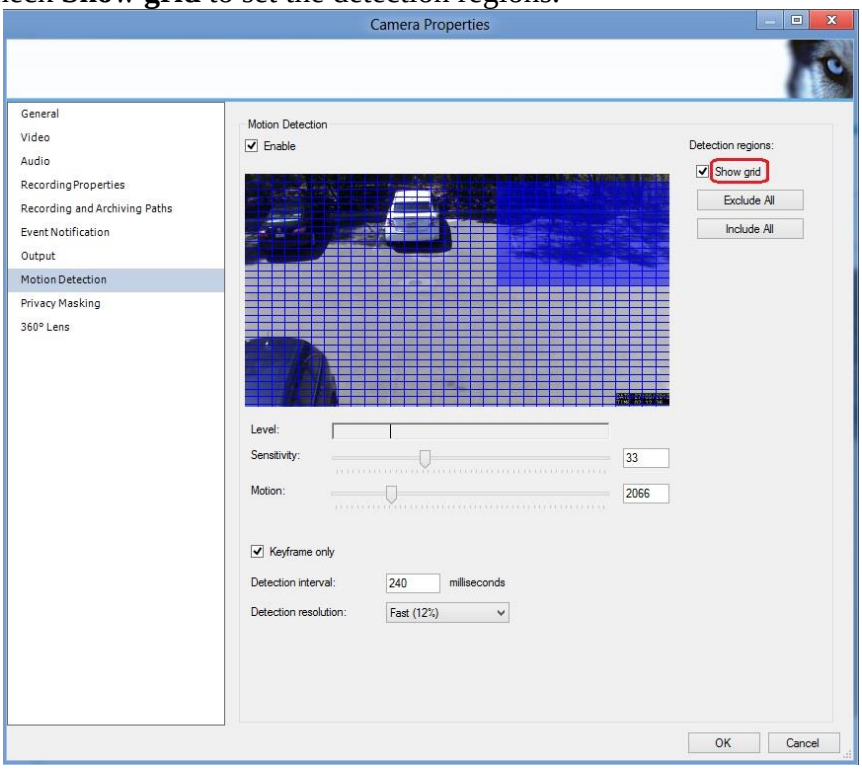
For example, you can set **Motion Detection** and **Privacy Masking.**

- Set **Motion Detection**.

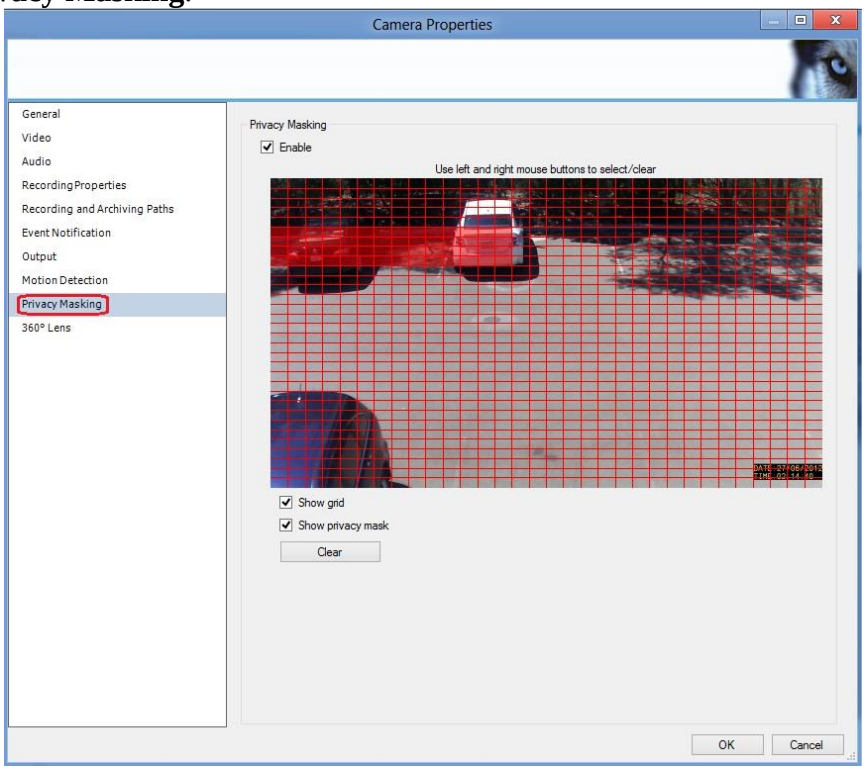


Sensitivity and **Motion** can be used to adjust the **level**.
When the green bar is over the line, the video from the camera will be recorded.

You can also check **Show grid** to set the detection regions.

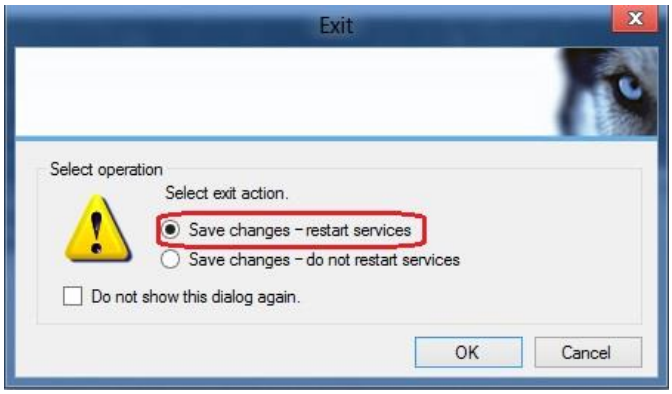


- Set **Privacy Masking**.



The blocks you select will be a black area in video you get from camera.
After you set the properties, click **OK** to save it.

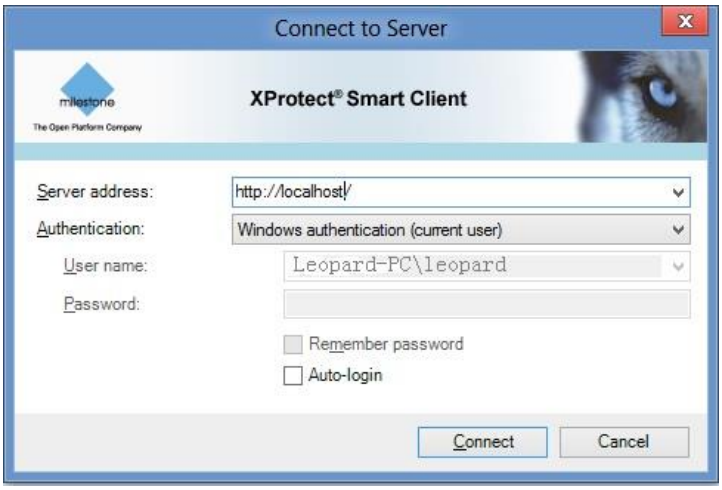
When you finish the configuration and close Management Application, you will get the following window.



Select **Save changes – restart services**, then click **OK**.

3.2 Run Smart Client

Open **Milestone XProtect Smart Client**.

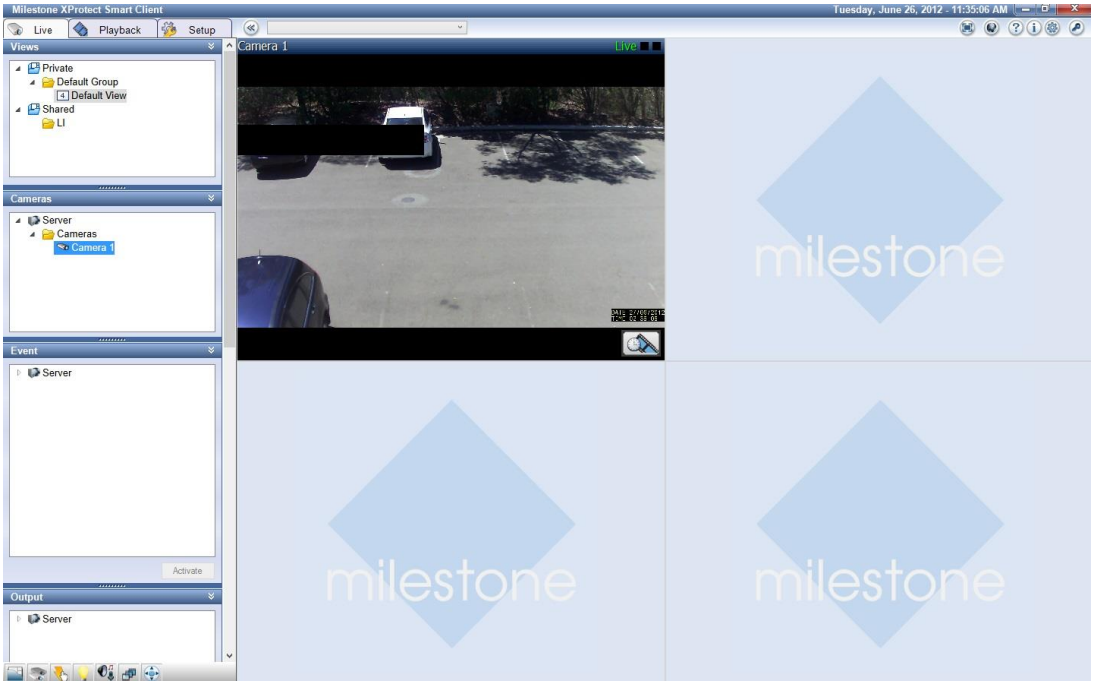


Click **Connect**.

Note: *If you use the default port 80, the* ***Server address*** *is* ***http://localhost/*** *; if you change the port, for example, change to 81, the* ***Server address*** *should be* ***http://localhost:81/ .***

3.2.1 Live Video

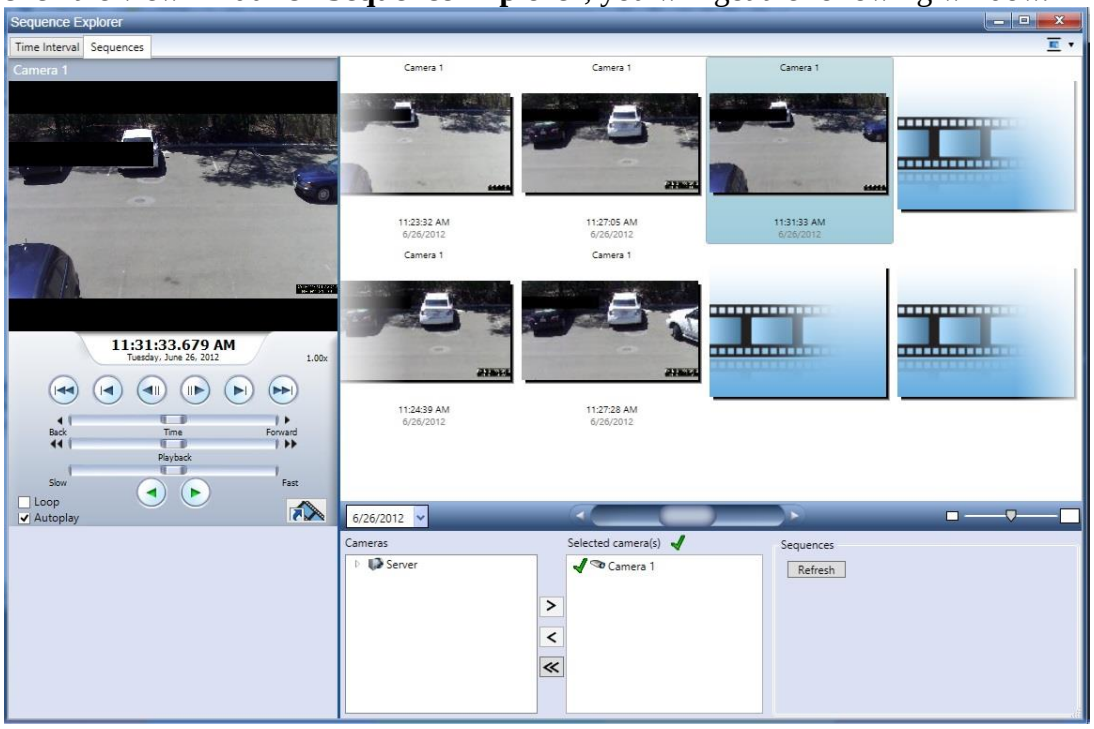
In next window, go to **Server → Cameras → Camera #.**
Select the required camera from the list, and drag the camera to the required position in the view. You will see the live video from the camera.



3.2.2 Playback

If you want to playback the video, select **Playback** tab.

Right click the view→**Launch Sequence Explorer**, you will get the following window.

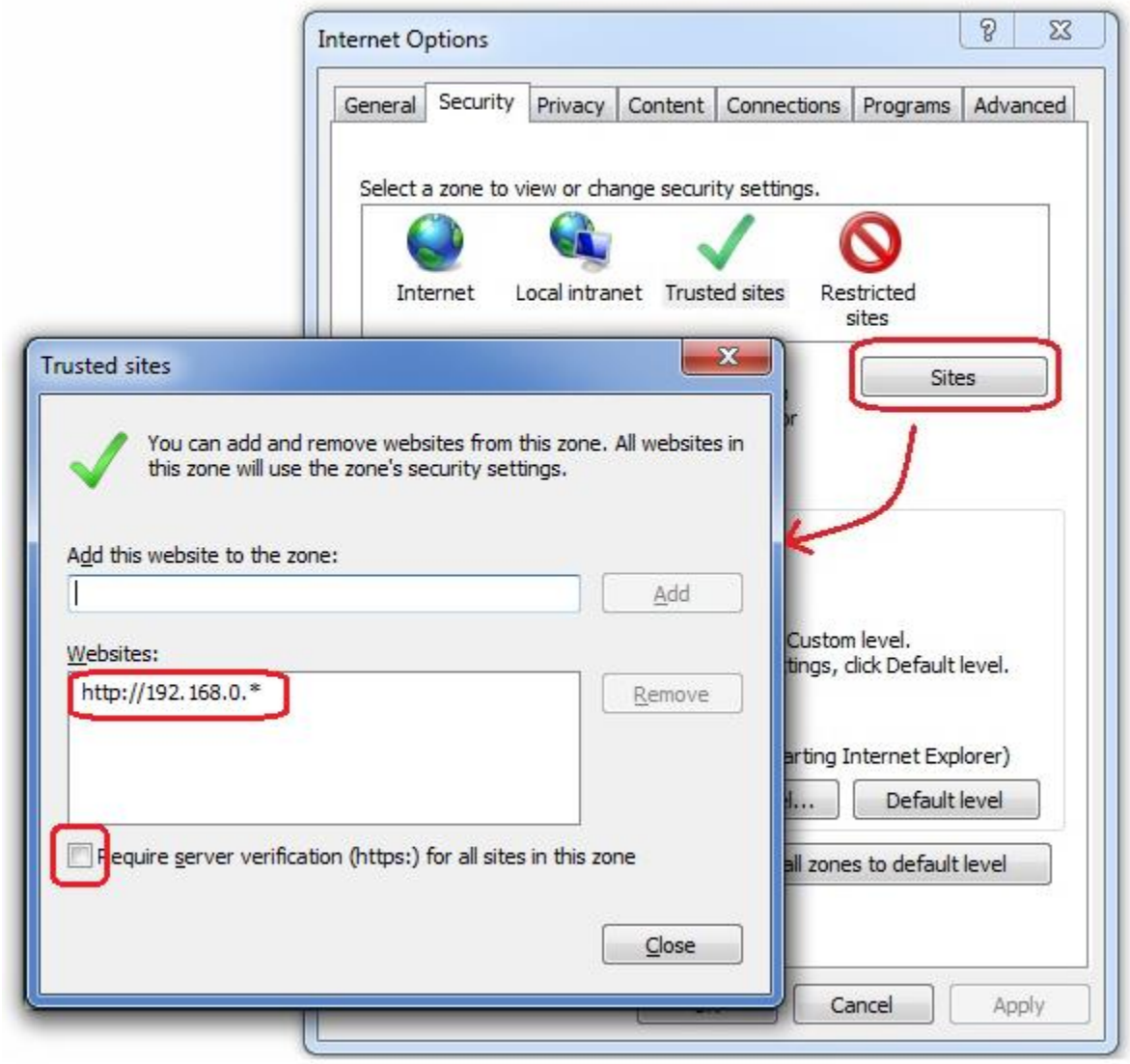


You can select the video which you want to playback.

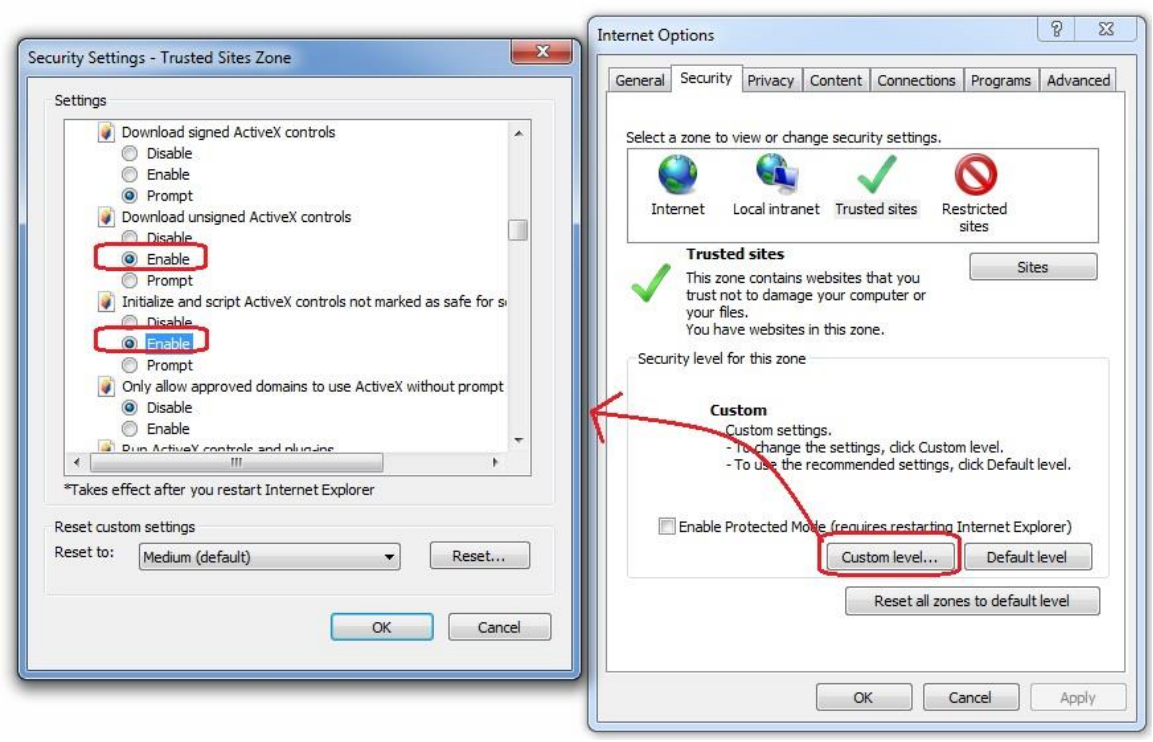
Note: *If you want to know more about the functions and settings, please refer to the user guide of Milestone XProtect.*

A3. Install Add-on to get the IE Interface

Open IE, Go to **Internet Options → Security → Trusted sites**.
Click **Sites**, uncheck **Require server verification (https:) for all sites in this zone** and add the IP address of camera to **Websites**.
For example: http://192.168.0.*



Click **Custom level**, enable **Download unsigned ActiveX controls** and **Initialize and script ActiveX controls not marked as safe for scripting**.



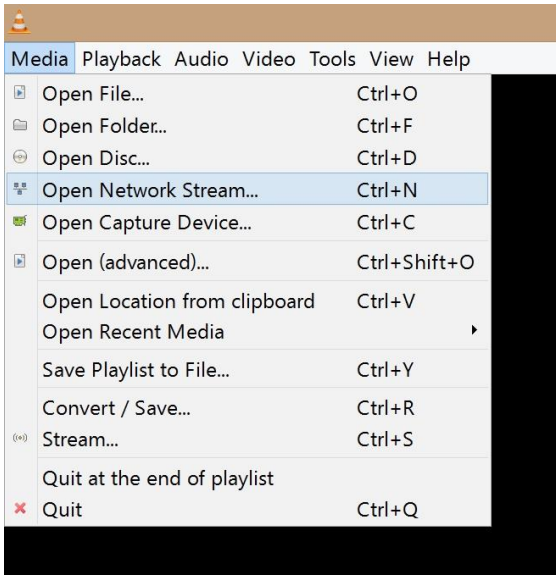
On IE interface (after login), reload the page.

If you get a message above, click **Install**.

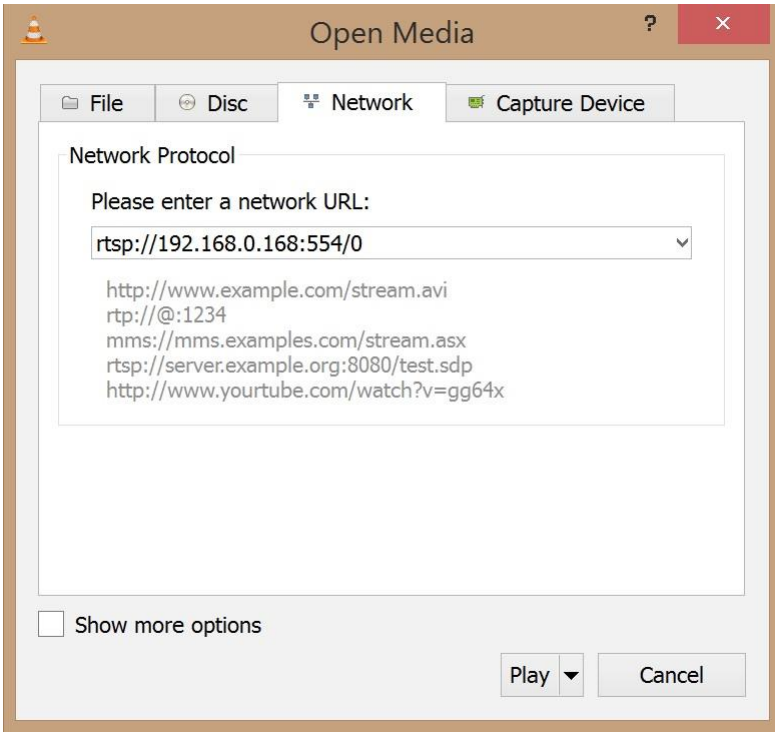
After install the ActiveX control, you will see the live video.

A4. Streaming video via RTSP on VLC

Open VLC media player. Got to **Media → Open Network Stream**.



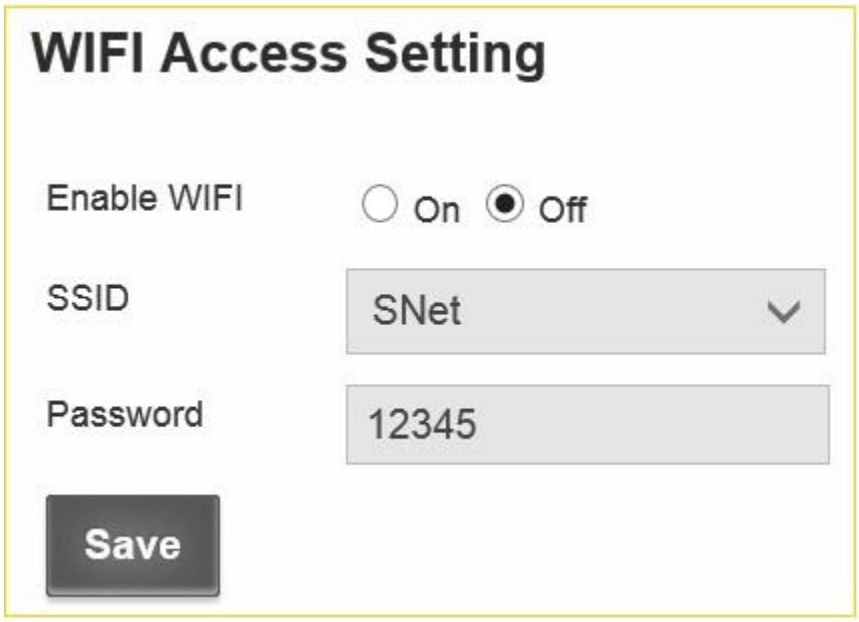
In Next window, enter the URL rtsp://<IP_address>:554/0 for main stream or rtsp://<IP_address>:554/1 for sub stream, then click **Play**, you will get the video.



A5. How to use WIFI

If there is an optional WIFI module on your camera board, you can run this camera with WIFI.

For the first time you use the WIFI function, you need to enter IE interface with network cable and go to **Network Setting→ WIFI Access** to enable the WIFI. Then select the WIFI ID and enter password.

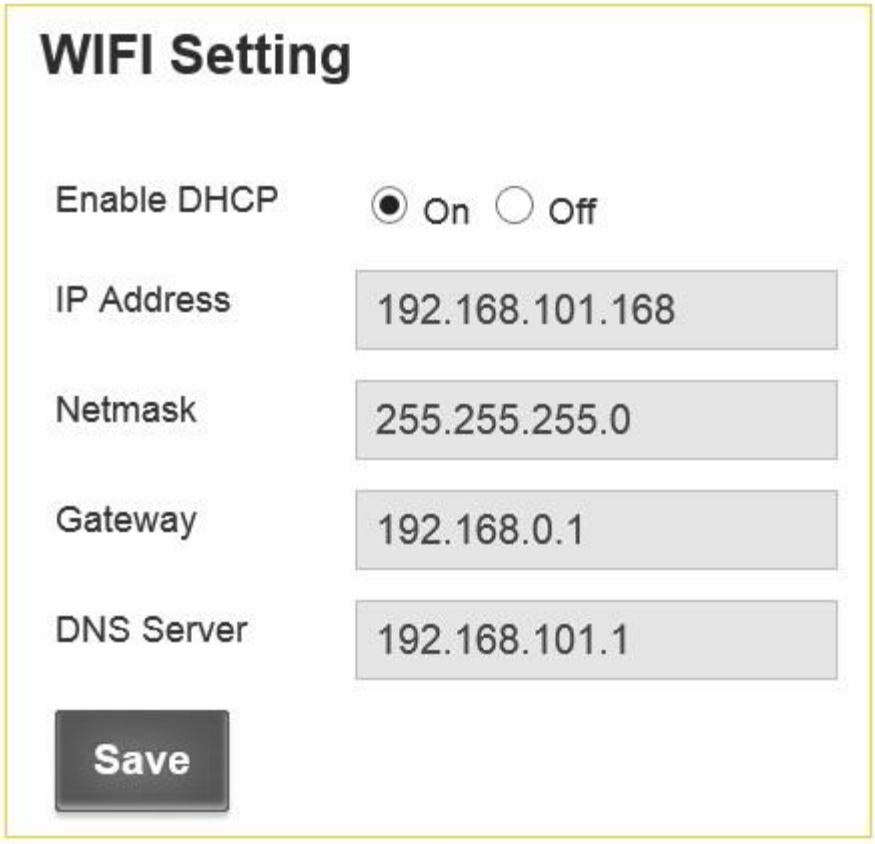


After click **Save**, the camera will reboot.

After the camera boots up, you can get the IP address from the serial log screen (the WIFI IP address is behind the IP address from network cable) or the UPnP device of the computer which connects to the WIFI router (please refer to previous section **Run Demo**).

You can also set the static IP of WIFI.

Go to **WIFI Settings**.



Select **Static IP**, enter the static IP address, and click **submit**.

The IP camera will reboot in next step. After the camera boots up, the static IP address can be used to open the IE interface.

Glossary

- **Alert**: An alert can be in the form of an e-mail or an ftp upload of an image, that occurs when a sensor is triggered, or motion is detected.

- **AVI**: Audio Video Interleaved. A Windows multimedia video format from Microsoft.

- **CIF**: Common Interface Format. A standard video resolution format used in video conferencing. CIF resolution is 352x288 and bit rate is 36.5 Mbps (at 30fps)

- **DHCP**: Dynamic Host Configuration Protocol. A system by which each piece of equipment on a network is allocated an address IP dynamically.

- **Ethernet**: The most widely used local area network (LAN) access method, defined by the IEEE as the 802.3 standard.

- **FTP**: File Transfer Protocol. A standard protocol designed for transferring files over a TCP/IP net-work.

- **IP**: Internet Protocol. The network layer protocol in the TCP/IP communications protocol suite (the "IP" in TCP/IP). IP contains a network address and allows messages to be routed to a different network or subnet.

- **LED:** Light Emitting Diode. A semiconductor device that emits light when a voltage is applied.

- **Motion detection**: Camera function that causes an alert to be triggered when movement is detected in the field of view.

- **Protocol:** Standards governing the transmission and reception of data.

- **Resolution:** Screen resolution is expressed as a matrix of dots. For example, the VGA resolution of 640x480 means 640 dots (pixels) across each of the 480 lines.

- **RJ-45:** Registered Jack 45. RJ-45 type connections are used in Ethernet devices.

- **SNTP**: Simple Network Time Protocol. A protocol that allows devices to update internal clocks using a standard source available on a network.

- **Static IP address:** A static IP address that is assigned manually and never changes.

- **TCP/IP**: Transmission Control Protocol/Internet Protocol. A communications protocol developed under contract from the U.S.

- **VGA:** Video Graphic Array. The video display standard for the PC.

Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

Leopard Imaging:
LI-1080PTZOV